

**PROJECTS 7 and 8:
CONCLUSIONS and POLICY IMPLICATIONS**

Taking the Sector from Trade Deficits to a Competitive Resurgence

June 2014

About the CAPI Processed Food Research Program

Food and beverage processing is one of the country's largest manufacturing sectors and an essential channel for Canadian agricultural products. Companies are succeeding yet the sector has been facing challenges, including record trade deficits in secondary processing. Working closely with a variety of partners, CAPI's research is focused on better understanding the issues and opportunities facing this sector and their implications for policy and strategy, and to generate a dialogue on ways to support the sector's future growth and competitiveness.

Project 7 and 8: *Taking the Sector from Trade Deficits to a Competitive Resurgence:* This report brings pertinent findings together and presents the case for change and action and why a concerted response is required.

PHASE 1 Diagnosis	PHASE 2 Inspiring practices	PHASE 3 Competitive advantage
1a. Diagnosing the trade deficit 1b. Reasons for the trade deficit 2. Explaining the trade deficit 3a. Food manufacturing performance 3b. Plant openings, closings & investments	4a. Case studies on company success 4b. Cross-case study analysis 5. Consumers and markets 6a. Capital investment 6b. Talent, skills and people 6c. Innovation and off-grade food	7. Conclusions 8. Implications for policy and strategy 9. Dialogues on outcomes

All completed projects, along with supporting material and data, can be found online at www.capi-icpa.ca.



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Overview

This report is the culmination of an extensive examination of the state and prospects of Canada's food manufacturing sector. The Processed Food Research Program began in late 2012 by drawing attention to the rising trade deficit facing the country's secondary food processing sector and the need to explore the reasons for and implications of this development. Given the importance and the nature of change facing the sector, CAPI embarked upon a broad review of the sector's competitiveness. The research and outreach focused on three general phases: understanding the changes and pressures facing the sector, learning about inspiring practices and broadening the thinking about some opportunities, and framing the ideas in a way to create a constructive dialogue on what needs to happen. Many individual projects associated with these phases have been published. This report brings pertinent findings together and presents the case for change and action and why a concerted response is required.

Tweet summary



Report enables food manufacturing (Canada's No.1 mfg sector) to grow, invest, compete - benefitting producers and communities. #Cdnfoodmfg

Executive summary

Food processing is the largest manufacturing industry in Canada by employment and, more recently, by GDP – larger than autos and aerospace manufacturing combined (Figure 1). The significance of food processing in Canada is not well known, and often only comes to mind when a community is threatened with losing its main industry. For example, the closing of the Heinz processing plant in Leamington, Ont., and the closing of the Hershey's factory in Smith Falls, Ont., garnered much public attention.

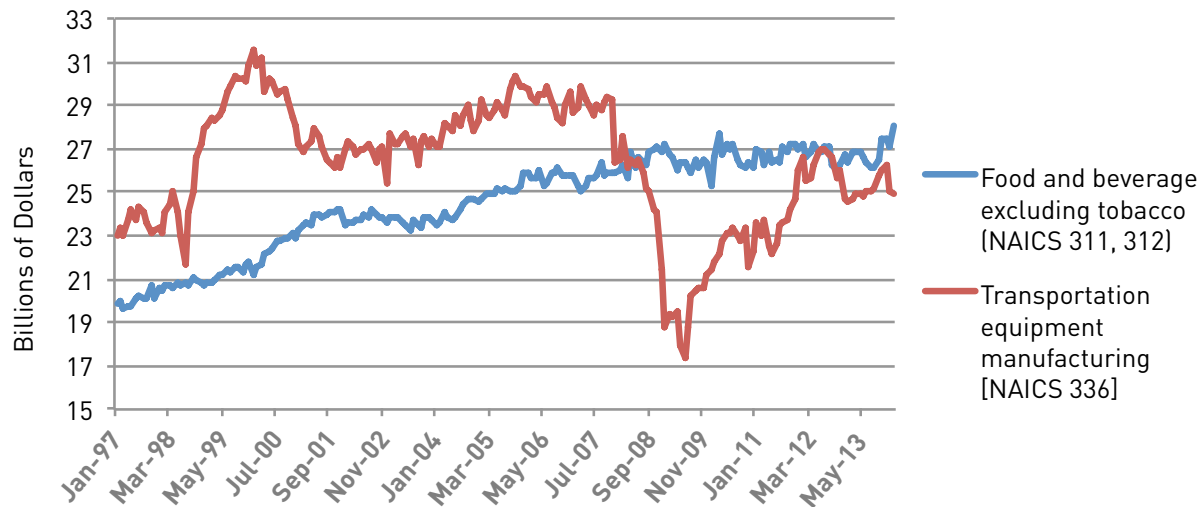


Figure 1: Monthly GDP: Food and beverage (excuding tobacco) compared with transportation equipment (chained 2007 dollars).^a

Across the country, 143 plants closed between 2006 and 2014. But consumers and farmers still depend on Canadian food processors to transform some 40% of the country's agricultural raw materials into the foods we eat. In some sectors and provinces this is much higher. Food processing is a critical manufacturing sector (Figure 2). It is integral to rural and urban communities from coast to coast and, as we are discovering, it provides extraordinary business opportunities.



Figure 2: The importance of Canada's food manufacturing sector.

Given the significance of Canada's processed food sector, CAPI has raised concerns about increasingly large processed food deficits. The trade balance is a surrogate measure for competitiveness and we were particularly sensitive to this from our previous work examining Canada's beef sector (in which we flagged an unexpected deficit in what is a key primary processed product). CAPI set out to understand why Canada, one of the few countries that actually has a positive trade in food (including commodities) overall, is running such large deficits in secondary processed foods.

That deficit recently reached \$6.8 billion, and we need to find a way to reverse this trend.

The increasingly large processed foods deficits are even harder to explain when, according to the OECD, the global demand for both primary and further processed foods is rising at an incredible pace. While Canada's primary and secondary processing

sectors have certain strong performers (e.g., canola oil and meal, and frozen potatoes), the country's primary processing sector's trade surpluses are driven by only a handful of commodities.

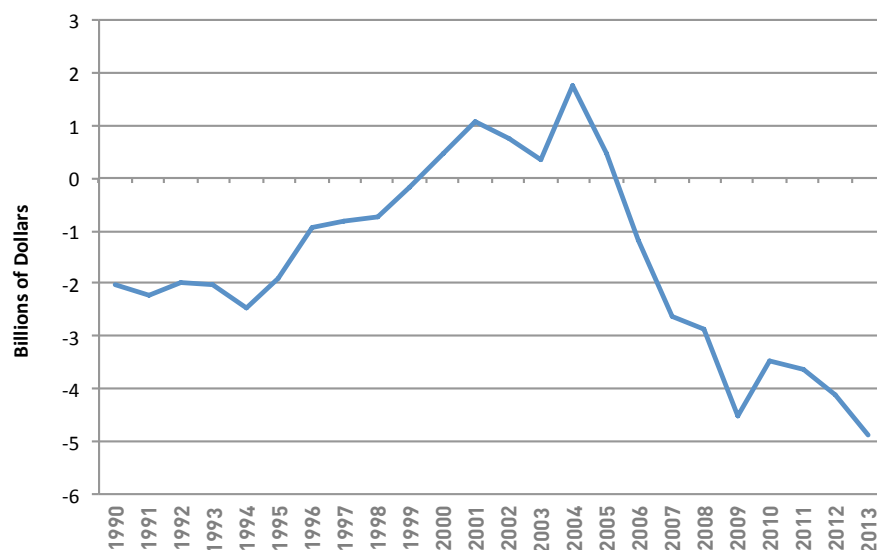


Figure 3: Net trade balance in food processing and manufacture.^b

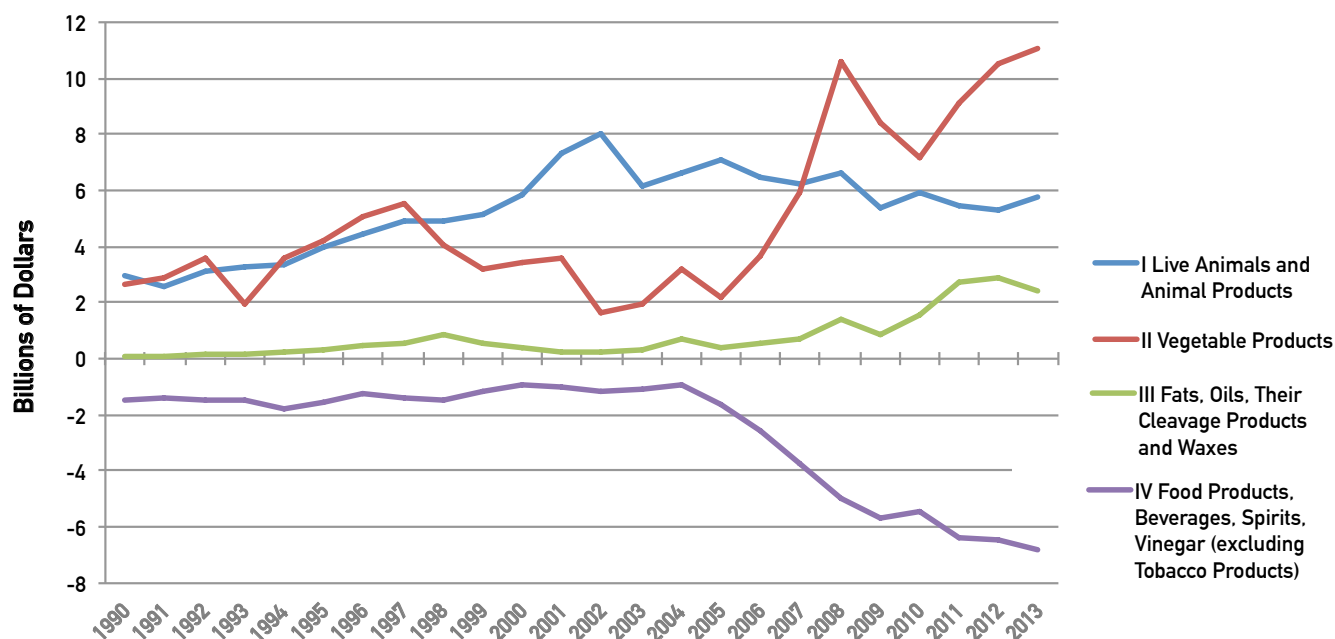


Figure 4: Canada's agri-food net trade 1990-2013.^c

Selected research findings

Canadian dollar: Some observers have suggested that the processed food deficit, which mushroomed in 2004, may be partly attributed to an overvalued Canadian dollar. However, some subsectors began running deficits before the dollar strengthened. Our work discovered that broader systemic issues were at play.



Investment trends: The long period of positive capital investment (net of depreciation) in Canadian food processing came to an end in the late 1990s and has only recently shown signs of recovery – a recovery due in part to favourable tax policies. In 2004, the historically small but stable structural processed food deficit began to rise.

Foreign direct investment in Canadian food processing rose sharply with the deficit, suggesting U.S. and European companies were playing a large role in the rationalization of the Canadian food processing sector. As well, from 1999 onward, Canadian direct investment in food processing began to increase outside the country. Clearly some Canadian processors began to see better opportunities elsewhere. In combination, quite a startling shift was taking place as companies were sold, shut down or consolidated.



In part, this was driven by sluggish demand for processed food in North America. Our case studies of food manufacturers revealed that multinationals operating in Canada were vigorously competing for internal capital with their subsidiaries in higher-growth markets outside of North America. Retrenchment of American companies in Canada was symptomatic of these changes.

Profitability and margins: Ironically, retrenchment by multinationals and the focus on industry consolidation and cost-cutting by Canadian companies were sufficient to maintain profitability despite margin pressures. But those pressures continue. Processors are squeezed from all sides, from consumer expectations of low prices and retailer demands for cost reductions to rising ingredient and non-food costs.

Ingredients: The processing industry is highly sensitive to competitively priced ingredients. One area that did not experience the same degree of change over this period was ingredients covered under supply management. Yet producers have become aware that food processing is important for them, too; dairy farmers have introduced competitive milk pricing directed at manufacturers using certain dairy products (e.g., cheese). Greater opportunity for mutual wins is possible, and CAPI can play a role here to further the dialogue.



Drivers of success: Managing costs is just one component of the measures companies need to take to succeed. Our case studies revealed the importance of sound strategies and performance excellence. Successful companies deploy strategies based on an absolute clarity of purpose by the CEO and are driven to differentiate at every level of the business while enhancing productivity. These companies are intensely focused on revenue generation. (The recent uptick in capital investment in food processing is an encouraging signal that the sector's revenues may be about to rise.)

Scale: To compete, companies must define appropriate scale. This, too, was evident across our case studies. Scale is important because we have an open border with the U.S. and imports produced in a scale market there are flooding into Canada – hence the rise in food imports and the growing deficit. Of course, a broad variety of food and beverage imports are desired by consumers. But the issue is how Canadian companies can define a differentiation advantage as a platform to achieve suitable scale in the right markets. For some companies, this is challenging in the small, highly concentrated Canadian retail market. To put this into context, a processor achieving a share in even the California market equal to its Canadian share would effectively double in size.

Market access: Access to markets is a big part of achieving appropriate scale. Much is being done to secure such access, but challenges remain. Despite access granted through the North American Free Trade Agreement, the holding of products for testing at the U.S. border further disintermediates Canadian processors from American customers. Such barriers help explain the growing half-billion-dollar trade deficit in processed meats. In a just-in-time world, becoming a supply risk does little to attract investment. This needs to be resolved.



Consumers, brand and trust: Consumers have a reasonable right to know where their food comes from. A great deal of processed food that was once proudly known as a “Product of Canada” cannot now use that label (given its stringent requirements) even though the primary ingredient is indeed Canadian. Adding to the confusion is a growing amount of products sold at retail with no discernable origin. Transparency allows consumers to exercise a preference and that preference could often be Canadian. Not only is this relevant to domestic consumers, it is important as trade agreements open up new markets. We need to leverage this country’s food reputation. Concern over the safety of the food supply in countries such as China is creating new opportunity beyond America. “What’s in our food” and “how is it made” is about trust — and we can do more to reinforce this important concept. Our low-residue crops and meats will become a processing advantage as consumers nearly everywhere expect to be reassured more about what they eat.



People and talent: Helping make these changes possible are people. Success requires tapping into the best talent, starting with the CEO and his or her leadership team. Leaders need a clarity of purpose, entrepreneurial savvy and global-mindedness to grow a business. Our work reveals that such attributes help determine successful strategies across different company sizes. Canadian companies have access here to a largely unique and diverse immigrant pool. These connections are underutilized assets for entering or strengthening access to markets. Canada punches above its weight in science, but food processing suffers from a shortage of the highly qualified professionals needed to translate science into innovation. CAPI is working with one skills-focused organization to deliver a solution here for food companies.

Recognize sector’s importance: Despite adverse conditions over the last decade, a vibrant Canadian food processing sector continues to operate in a stable and attractive jurisdiction (Canada). Our case studies offer concrete examples of companies that are succeeding and others that are in the turnaround phase. The simple conclusion of CAPI’s research is that we need to recognize the importance of Canada’s largest manufacturing sector — and its critical connection to production agriculture. We suggest practical steps business and government can take to bolster the sector and supply an action list for maintaining the position of food processing as the number one manufacturing industry in Canada.

The strategy

This report captures many key ideas and evidence from a series of research projects undertaken by CAPI over the last 18 months. We present the core ideas and a way to achieve a resurgence in the sector in the form of a one-page “strategy map.” This is our “call to action” to stakeholders: what is required for Canada to have a world-leading food manufacturing sector? We need to recognize that food manufacturing is the country’s number one manufacturing sector and treat it as such. We also need to recognize what makes companies succeed. Building on efforts underway to support the sector, food manufacturing must become an economic priority. A number of companies are successful but to reach our potential we must excel at differentiation in the marketplace. We believe that these efforts will generate better outcomes for food manufacturers and investors, as well as for Canadian producers and communities.

We set out two broad and mutually supportive goals to get there: what governments and other stakeholders can do to enable this and what companies need to do improve their own growth prospects. The objective is to attract more investment, turn the trade deficit around and get more consumers (here and abroad) to desire Canadian food. It is up to stakeholders to assign more specific timelines and actions to achieve both.

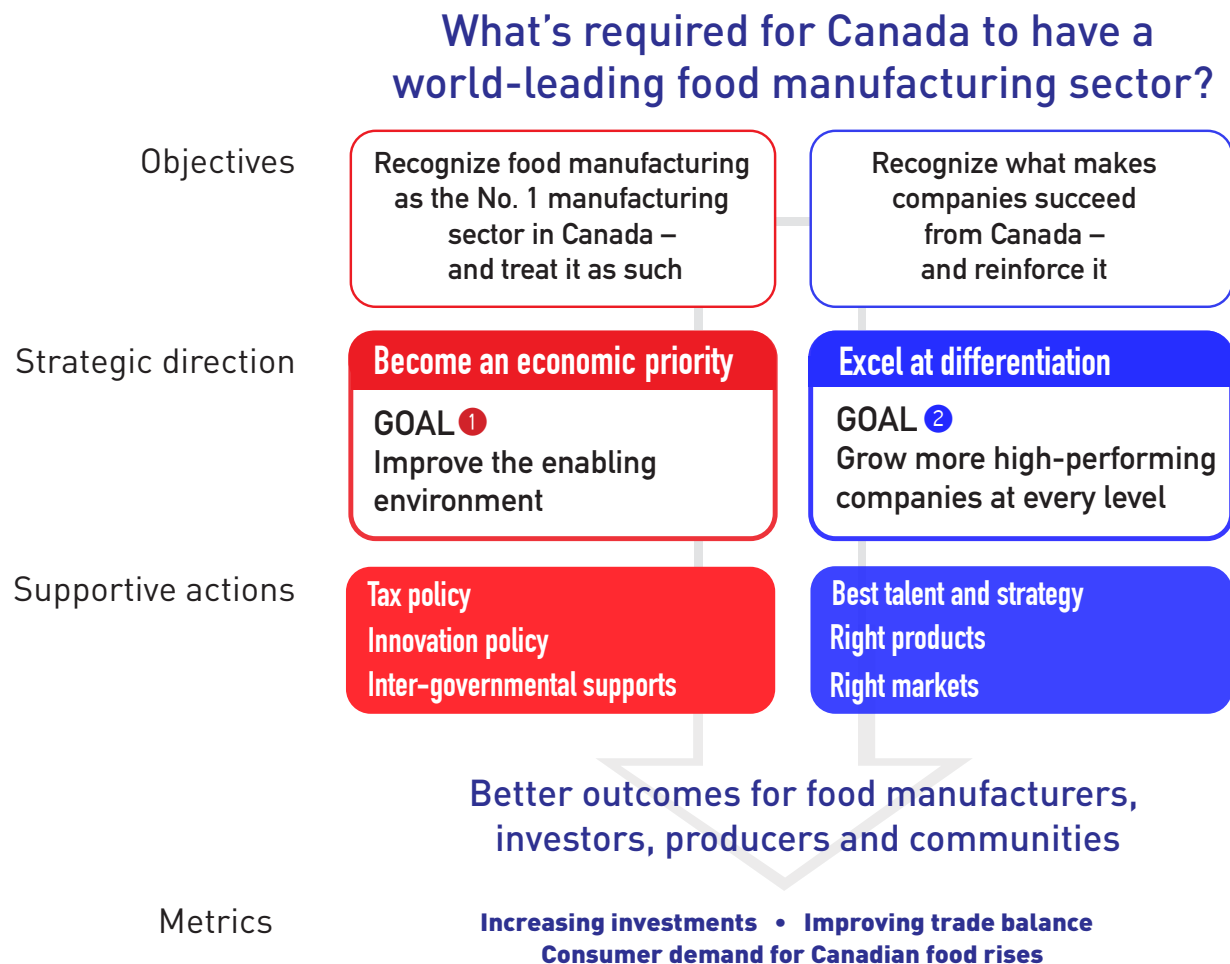


Figure 5. Abbreviated strategy map: Achieving resurgence in Canada’s food manufacturing sector. (Full version on page 14).

Does the trade balance matter?

The trade deficit for secondary processing stood at about \$1 billion in 2004; in 2013, it was \$6.8 billion. Wine is a major contributor to the deficit, but overall, every chapter (sub-category) in this sector is in deficit. That said, exports in some sectors can be growing (while imports rise faster – hence the deficit) and specific products can record trade surpluses (e.g., frozen potatoes). CAPI's research emphasizes the point that each food category is driven by different – if not unique – market dynamics and each comes with specific challenges, opportunities and reasons for its performance.

The trade balance for primary processing presents a different picture; it has recorded a substantial trade surplus of nearly \$2 billion in 2013 (Figure 8, page 24) — down from a record high in 2011. Virtually all the growth has occurred in four commodities: canola oil, pork, edible offal and malt, with canola oil and pork accounting for most of the surplus. Overall, the net trade from all processed products is negative since 2006, and showing little sign of recovery. (A full discussion is devoted to primary and secondary processing later in this document.)

While Canada's trade in unprocessed commodities has been robust and, overall, has remained in surplus (Figure 4), the net trade in all food processing – primary and secondary activity – is negative and worsening (Figure 3). This matters because Canada needs to be a vigorous competitor in adding value to food ingredients. It also needs to continue to offer this market opportunity to primary producers and attract new investments.

Notes

- a. The Gross Domestic Product (GDP) attributed to food manufacturing, beverages manufacturing and transportation equipment manufacturing (to January 2014). The GDP for transportation equipment manufacturing exceeded that of food and beverage manufacturing throughout the period 1997-2007. However, since mid-2008, GDP for food and beverage manufacturing exceeded transportation equipment GDP. Clearly, the auto and related industries had a significant slowdown during and after the fiscal crisis starting in late 2007. While there has been considerable recovery in the transportation manufacturing sector, it has stabilized at a level just below that of the GDP for food and beverages in 2012-2013. The data are monthly estimates, seasonally adjusted to annual rates, expressed in chained 2007 dollars as well as 2007 constant dollars [CANSIM 379-0031].
- b. Combining all processing activity (from HS I-IV) reveals the following net trade performance. Canada has a rising trade deficit in food processing as a whole, primary and secondary combined.
- c. Categories I, II, and III represent Canada's commodity trade but also include "primary processing." This includes, for instance, harvesting animals for carcasses, primals, intact meats and offals, which are contained in HS I. Equally, a number of processed dairy products are included in this category. In Vegetable Products (HS II), there is considerable food processing of cereals into flours, meals, starches, flakes as well as potato flakes. Oilseed-crushing for oil including canola and other oilseed oils is found in HS III.

The state of food manufacturing in Canada: A selected overview of the research

This report starts by highlighting findings from CAPI's research. We worked with a variety of partners and advisors to complete a review of the food manufacturing sector's competitiveness. The following summarizes a number of pertinent findings. All of CAPI's reports are published on our website. In short, the sector continues to undergo significant restructuring and while it has shown resilience, the sector continues to face current and prospective risks to its competitiveness.

The sector has been "RESTRUCTURING"

Trade balance and trade deficits	Rising imports and flattening exports (notably from 2004) results in record deficits in secondary processing (still rising: \$6.8 billion, 2013). Each sub-sector has a different trade balance profile; some have robust trade surpluses. ¹ The trade deficit with non-NAFTA countries started in the mid-1990s. ² The decrease in investment in machinery and equipment correlates with the rising trade deficit and is possibly linked to the retrenchment of manufacturing capacity and the resulting rise of processed food imports. ³ Primary processing's trade surplus is driven largely by four product categories, of which two account for most of it. ⁴ Overall, the net trade in all processing is in a trade deficit. (See Figures 3 and 4.)
Plant closures	143 plant closings (2004-2014); Ontario hardest hit (52% of national impact); Quebec is 19%. ⁵
Nature of closures	90% of closures are part of multi-plant organizations (signals restructuring). Most closures by multinational enterprises (MNEs). ⁶
Jobs losses	Between 2006 and 2014, over 23,000 job losses occurred and 72% of job losses are in secondary processing in Ontario. ⁷
Exchange rate	Rise in the Canadian dollar between 2002 and 2008 correlates with rising deficit but it is not the fundamental reason (reasons are complex). ⁸
Retail change	Private labels constitute nearly 25% of retail offerings. ⁹ Rising retail concentration (top three firms = nearly 70% of the market in Canada). ¹⁰ Retail practices (shelf-listing fees) are an issue but it is uncertain as to the degree of impediment. ¹¹
Consumer preferences	Price is often king, but consumer food choices are changing (e.g., ethnic food growth). Companies and supply chains face rising societal expectations about health, ethics, sustainability and provenance. ¹²
Impact of NAFTA	Access is provided but border challenges persist, ¹³ notably arbitrary inspection practices by the Americans. ¹⁴ U.S. weak growth results in rationalization and retrenchment of U.S. firms from Canada. ¹⁵ Individual states are actively attracting investment. ¹⁶

The sector has been “RESTRUCTURING” (Continued)

Global supply chains	Multinational firms (MNEs) compete internally for investments across the global family to attract investments and ingredient sourcing. ¹⁷ Also of interest is that the global trade in processed food has more than doubled from 1995 to 2008, growing faster than agricultural products, according to the OECD. ¹⁸
Cost pressures	Processors cite rising or high ingredient costs (most frequently referencing supply-managed ingredients and products governed by marketing boards). ¹⁹ Overall, about 65% of food manufacturers’ total costs are ingredients and supplies. ²⁰ Rising energy costs in Ontario are cited as an issue for processors. ²¹ Ingredient and other costs affect investment decisions. ²² Regulatory issues are also often-cited for contributing to costs and competitiveness challenges. ²³

The sector has shown “RESILIENCE” while continuing to face “RISKS”

Jobs	The combined primary and secondary processing segments largely sustained employment performance during the last recession. ²⁴ The nature of employment also changed somewhat with a gain of more non-manufacturing-related jobs. ²⁵ (In the future, the nature of jobs should change, too, as increased automation reduces the number of plant employees and requires higher-skilled people to operate such equipment and robotics.) The perspective changes depending on the years considered; e.g., employment increased somewhat from 2007-08 to 2011 ²⁶ ; and, over the period 2009-13, the food sector employment declined somewhat vis-à-vis other manufacturing. ²⁷ Food manufacturing is Canada’s largest manufacturing employer, exceeding the automotive sector. ²⁸ Competition for people, access to skilled labour and quality talent remain issues of concern. ²⁹
Sales performance	During the last recession, food manufacturers’ sales performance was more stable and outperformed other manufacturers, reaffirming the view that the food industry is deemed to be largely “recession proof” ³⁰ and regarded as resilient. ³¹ Since the recession, sales growth among food manufacturers grew less than general manufacturing. ³²
Capacity utilization	Food manufacturing capacity utilization outpaced all other manufacturing in 2007-09, demonstrating a resilience during this period – but the utilization rate has declined since 2011. Matching production output to plant capacity is a measure of competitiveness ³³ and “Declining capacity utilization is often symptomatic of an industry facing serious challenges.” ³⁴ One implication is that companies need to find ways to develop new products and drive up plant throughput to generate revenues. ³⁵ Otherwise, the economics of the plant falters, plants can be closed and food imports inevitably rise – driving up the trade deficit.
Margins	While margins continue to be under pressure for food companies, studies reveal different pictures of performance here. ³⁶

The sector has shown “RESILIENCE” while continuing to face “RISKS” (Continued)

Investment	Investment was largely flat for a decade but recently improved by showing a positive net investment in machinery and equipment (M&E) likely assisted by the Accelerated Capital Cost Allowance (ACCA) and a stronger \$CAN; but investment in buildings deteriorated. ³⁷ Investments are enabled by favourable business income tax rates and a generally receptive business culture. Company feedback about the cumulative impact of the “regulatory burden” and ability to access (or not) competitively-priced food ingredients is a contributing factor when determining investment decisions. ³⁸ Foreign direct investment (FDI) has risen dramatically from about 2007-2012 to some \$16 billion from less than \$10 billion. ³⁹ Canadian investment abroad (CDI) has also increased to \$8.5 billion in 2012, up from \$2.7 billion in 1999. Rising investment is the foundation for turning around the growing trade deficit. ⁴⁰
Plant openings	Small and medium-sized enterprises (SMEs) represent 84% of the industry and drive more opening and investing “events” compared with foreign-owned multinationals. ⁴¹ Quebec performs better than Ontario due to strong local share, number of openings ⁴² and increasing investment. ⁴³
MNEs in Canada	To remain in Canada, MNEs display a “differentiated advantage” to secure “export mandates” but pressure to compete for internal capital and ensure productivity is high. ⁴⁴
GDP ranking	The food and beverage processing sector recently became the largest manufacturing sector in Canada: \$28 billion (excluding tobacco) vs. transportation equipment (which includes auto manufacturing): \$24.9 billion ⁴⁵ (Figure 1).

Positioning the sector for future success: Achieving a resurgence

A “resurgence” is necessary — given the importance of the sector to Canada — if the right steps are taken. The strategy map below succinctly presents the framework to do so.

The outcome is clear: We can create a better place for food manufacturers to grow their businesses, locate here and attract investment – benefiting the Canadian economy, producers and communities. Indeed, Canadian processors can add greater value to primary production, become less dependent on imports and achieve higher value for exports, thereby improving the country’s trade balance across much of the sector.

Achieving this requires first recognizing that food manufacturing is Canada’s number one manufacturing sector by GDP – much bigger than auto and aerospace manufacturing combined (Figure 1). With that lens in place, resources and policy can be deployed to accelerate industry investment (Goal 1), allowing the sector to fulfill its vast potential for growth. Success also relies on what companies themselves do (Goal 2), working with their supply chain partners and industry stakeholders to be more resilient to competition, achieve scale, improve profitability, increase investment, attract the right people and execute the right strategies.

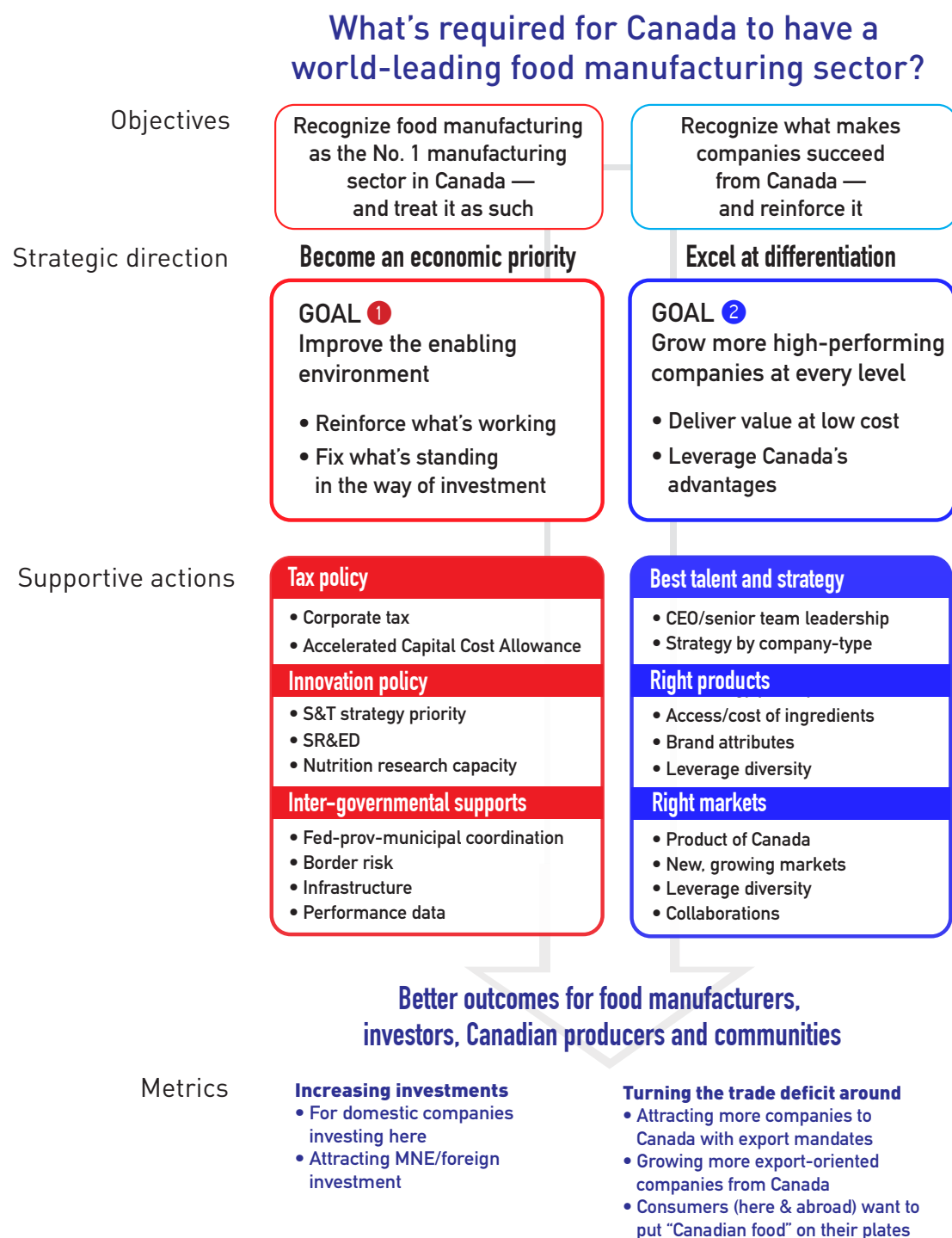


Figure 6: Achieving resurgence in Canada's food manufacturing sector.

Goals and actions

The path to becoming a world-leading food manufacturing sector begins with recognizing food manufacturing as the top manufacturing sector in Canada – and treating it as such. It also requires recognizing what makes companies succeed – and reinforcing those lessons. Below, this report outlines two goals, a set of supporting actions, and suggested metrics to help make this happen. “Improving the enabling environment” and “growing more high-performing food processing companies at every level” are mutually supporting goals.

GOAL 1 Improve the enabling environment

- Reinforce what’s working
- Fix what’s not working

With a rapidly evolving global market, this sector requires an economic environment of policies and regulations that support growth opportunities and enhance societal well-being; this requires reinforcing what’s working and fixing what stands in the way.

Strategic direction: Canada’s economic prospects depend on a diverse and competitive manufacturing sector as a whole. The food manufacturing sector needs to be recognized for its economic contribution to Canada and **become an economic priority** for the country. While many voices speak for this sector, common messages can benefit all of its stakeholders (e.g., the implications of food manufacturing being the largest manufacturing segment). Such recognition can drive reasonable and proportionate attention to the sector (noted below) and better link agricultural policy and food processing. Moreover, such attention can help to promote and improve “Canada’s open-for-business” reputation as a place in which to do business, invest and compete, and attract the best people to work in this sector. Such a supportive environment complements the other efforts that need to be taken by companies and industry (Goal 2).

GOAL 1 Improve the enabling environment (Continued)

Tax policy: to enable investment & productivity **Canadian firms invested \$8.5 billion abroad in 2012** (and that figure is rising).⁴⁶ Having Canadian food firms establish foreign manufacturing footprints is advantageous but not if investments go offshore because Canada is not deemed to be worthy of domestic investment. Being recognized as the top manufacturing sector means confronting the barriers to prevent investments from unnecessarily moving offshore and enabling investments here. While benefiting business competitiveness generally, our research reinforced the importance of maintaining a favourable corporate tax environment relative to other jurisdictions.⁴⁷

As well, extending the **Accelerated Capital Cost Allowance (ACCA)**⁴⁸ will further encourage investments in robotics, plant upgrades, etc. This becomes particularly important as the Canadian dollar depreciates against the U.S. dollar. It will also help Canada better prepare for competition that results from anticipated new trade agreements. Incentives to improve productivity are vital. Monitoring such investment trends should fall to industry associations to ensure that government policy instruments remain relevant to changing competitiveness needs (an “investment barometer” (metrics) can be developed to track progress⁴⁹).

Innovation policy **S&T Strategy:** To complement current efforts underway to commercialize innovation and link to science (AgrilInnovation Program/Growing Forward 2), include “agri-food” as a priority within the federal science and technology (**S&T strategy**). This should funnel more funding to federal research bodies and help channel (over the long term) new ideas and research into innovation commercialization pipelines.⁵⁰

Effective S&T applications require close collaboration with industry.⁵¹ Doing so means ensuring that industry has the capacity to leverage this opportunity, including access to **skilled graduates** (and encouraging placements of such graduates into companies)⁵² and **innovation incubation** facilities.⁵³

SR&ED: An attractive business climate includes reducing the administrative complexity of government funding programs across all levels. Companies specifically flagged the **SR&ED program** and this concern applies to simplifying the application and approval processes of other programs.⁵⁴ This program can also help enable companies to move from proof of concept to commercializing.

Nutrition research capacity: More **MNE food innovation development and testing** could be conducted here by better promoting/leveraging Canada’s health/nutrition/ingredients research infrastructure (e.g., to advance food-health products).⁵⁵ This also requires a supportive business climate and Canada’s multicultural makeup is advantageous in this regard.

GOAL 1 Improve the enabling environment (Continued)

Inter-governmental actions

To improve the open-for-business environment: Companies require streamlined **municipal-provincial-federal regulatory requirements**.⁵⁶ The role of municipalities is also relevant. Municipal best practices need to be developed to help companies invest and locate here and comply with requirements.⁵⁷ Adapting the regulatory environment to meet changing needs of domestic firms, at all levels, is important. The challenge of complying with regulations also applies to Canadian companies seeking to export.

To get on multinationals' radar: While Canada is open for business for all companies, it should **target and attract global privately held companies**.⁵⁸ CAPI case studies reveal that Canada has attracted such companies because, in part, the country provided a suitable cultural and an attractive business "fit" for them. Encouraging MNEs (in general) to locate here with **export mandates** to serve other foreign markets means ensuring that Canada's business environment competes against NAFTA options (the open-for-business environment noted below in various areas) and improving east-west transportation infrastructure.

To address border challenges: Building on the substantive work to date to address the border issues facing food exporters, Canada should resolve outstanding issues so that the **risk of border delays** does not end up disintermediating exporters from customers. Such burdens can be disruptive to just-in-time market dynamics and risks undermining the ability to attract investment or keep investment here.

To improve infrastructure: From global to local supply chains, adequate infrastructure is required to ensure that ingredients can be processed and final products shipped to customers.⁵⁹ This is linked to the "Canada brand" of being a reliable supplier. Municipalities play a role, from the local infrastructure needed to construct a plant to handling truck traffic to/from the site. It extends to employees being able to commute to the workplace, and it includes Canada's overall ability to receive and ship products to the marketplace. A deeper assessment is required as to whether our **infrastructure is keeping pace** with the needs of Canada's top manufacturing sector (and the agri-food sector as a whole) and the impacts on its competitiveness.

To develop good data: Industry and government need a **basket of metrics** to effectively monitor and track competitiveness. Good data are required to appreciate the nature and degree of change facing this key manufacturing sector. The trade balance is one surrogate measure of competitiveness and faces some limitations, such as not revealing domestic consumption. However, measuring export and import performance is relevant. Employment is a measure of success and food manufacturing is currently the largest employer in Canada across all manufacturing sectors. Improved productivity in this sector in the future will result in greater automation and fewer direct manufacturing jobs and is likely to result in the hiring of higher-skilled and higher-paid employees. Although revenue and profitability are other measures of success, including revenues of imported food processed in the U.S. (or other countries) and sold by MNEs here does not provide a clear picture. Governments, working with sector associations, need to take the lead on this.

GOAL ② Grow high-performing food processing companies

- Deliver value at low cost
- Leverage Canada's advantages

Successful companies need strategies that deliver high value at low cost, pursue performance excellence and leverage Canada's natural, ingredient-based and societal competitive advantages.⁶⁰

Strategic direction: Creating sustainable value for the consumer requires excelling at differentiation. The optimum business model to achieve this requires the leadership and talent development that takes the right risks, has the right people, gets the economics right and employs the right approach to product and market development. This is how entrepreneurs and investors improve their opportunities for success while recognizing that they also require a supportive macro environment (e.g., policies and regulations, addressed in "Goal 1").⁶¹

Best talent & strategy

Leadership: CEOs and senior leadership teams need an absolute clarity of purpose.⁶² This aligns stakeholders and drives leaders to look continuously at the next level of growth and recognize that they operate in a global market. Effective leaders strive for a constant "layering of differentiation" (from ingredient to the consumer) to create and maintain such uniqueness; such differentiation is pursued without trading off productivity – the essence of competitiveness. As well, leadership is required to ensure that companies vigorously champion collaborations across and beyond supply chains. This mitigates risks and leverages opportunities here and abroad.

Talent development: Leadership development is key, as is the development of talent across a company. Mentorship, succession planning, global experience/perspectives, and employees (skilled and unskilled) who represent our diverse society are important and highly valued. Companies should expose their executives to foreign networking and secondment opportunities.⁶³

Strategy by company type: Strategy and actions can vary by company type.

- ☐ **Domestic start-ups/small firms:** A local or regionally dominant niche player with growth sustained by uniqueness of intellectual property or terroir which captures the essence of authenticity in craft and artisan products.
- ☐ **Domestic mid/large firms:** Canadian processor growth requires developing resilience⁶⁴ to American scale through differentiation, access and focus on growth markets, innovative approaches to support productivity and capital attraction and the bench strength to manage step change.
- ☐ **Multinational firms:** Retention requires outperforming NAFTA manufacturing options⁶⁵ and competing for capital against corporate global alternatives. Those with staying power secure competitive inputs, differentiate, innovate, market-test, and hold export mandates.

GOAL ② Grow high-performing food processing companies (Continued)

Best talent & strategy (continued)

- **All companies:** Successful companies make key choices to help them stage-gate growth.⁶⁶ Productivity is pursued at many levels: from decisions to source ingredients to go-to-market strategies and in the multiple ways to achieve operational excellence.

Right products

Access to ingredients: Companies can invest here or direct investment abroad because of the cost, quality and/or availability of ingredients.⁶⁷ Finding ways to create mutually beneficial outcomes for **supply-managed ingredients** is needed. Creating solutions to stimulate processed-food growth will benefit producers and others in the supply chain.⁶⁸

Branding attributes: While price is a key driver of purchasing decisions, ingredients (and foods) can also be sourced according to a variety of attributes, such as nutrition levels (e.g., protein content) health impacts (e.g., managing diabetes), and environmental sustainability and ethical practices.⁶⁹ As consumers increasingly ask fundamental questions about what they eat (“What is in my food, is it good for me, where is it made and does its production cause harm?”), concerns about transparency, governance and authenticity will increase. Given Canada’s climate, fewer chemicals are required to treat crops for diseases and pests, resulting in lower residues. With increasing consumer (and processor/retailer) attention to food production methods, such practices are in Canada’s favour. This is about better positioning the Canada food brand. Producers and processors alike need to adopt a more integrated approach to valuing, demonstrating and promoting the brand and how it can confer a marketing advantage. (See Product of Canada, below.)

Leveraging Canada’s multiculturalism: Canada’s multicultural diversity presents food companies with an opportunity to test products for a broad variety of demographic segments and then develop approaches for global markets. Encouraging MNEs to come to Canada to test new products requires a concerted approach among the three levels of government. Entrepreneurs and domestic food companies are developing innovative products here to serve Canada’s diverse marketplace.⁷⁰ But it is questionable whether companies have fully tapped into this potential. Returning foreign students can become “food ambassadors” to provide foreign market insights and promote Canadian food.⁷¹ Canada’s ethnic diversity should help penetrate emerging markets (Asia).⁷²

Right markets

Product of Canada: Producer and processor groups can advance the Canadian food brand together by engaging in a meaningful dialogue on “**Product of Canada**” brand options.⁷³ Government needs to be engaged on the preferred choices.

To enable trade: Securing trade agreements needs to be complemented by holding **trade dialogues** to help food companies and supply chain partners prepare for the opportunities/threats and help prepare for a new trade environment (notably in Europe and Asia).⁷⁴ In 2014, CAPI will hold a series of such dialogues to assist this sector and the broader agri-food sector. These discussions are expected to reveal the relevant potential barriers and opportunities to expanding trade within these new arrangements. As well, the discussions may reveal the investments required by company, industry and government necessary to succeed in growth markets when better access occurs.⁷⁵

GOAL ② Grow high-performing food processing companies (Continued)

Right markets (continued)

To target under-developed markets: Finding new markets requires creativity, as these examples show:

- (a) **E-retailing to access China:** Much is said about increasing food exports to China and the fact that this country has a growing middle class — an attractive potential market — about the size of the population of the U.S. Little known, however, is the rise of e-commerce and how that can enable delivering products in demand by key demographic segments across China. It is estimated that more than 190 million Chinese regularly shop online and one expert suggests that this number could reach 350 million in the near future.⁷⁶ Many of these consumers seek out safe and high quality food and beverages, including baby formula. This trend is supported by the growth of “e-supermarkets.” “Food channels” have been launched by the top five retailers, including Walmart, which has become a majority owner of one of the largest Chinese e-supermarkets. The e-commerce opportunity is a largely unknown and under-utilized channel for Canadian food exports to this major market.
- (b) **Canada’s ethnic market:** The growth of ethnic grocery stores in Canada reveals the changing food marketplace particularly in Canada’s largest cities. In the Greater Toronto Area alone the market share of “ethnic grocers” climbed from 2% (2006) to over 9% (2014).⁷⁷ Many products serving these outlets are imported, suggesting that this may present a potential market opportunity that some Canadian food processors can more fully address.
- (c) **Food bank users:** Based on published data supplied by Food Banks Canada, some 1.7 million Canadians rely on food banks, making 14 million visits each year. The full economic value of the need for food banks could equal 2% of the entire retail food market, a need that is generally unserved by grocers, including discount grocers. Some food processors could develop lower-cost models to serve this under-served demographic.⁷⁸
- (d) **Off-grade food:** For some processors, working with producers to efficiently utilize off-grade raw materials due to imperfections (e.g., off-grade apples for juice-making) can become viable value-added business opportunities, under the right conditions and context.⁷⁹

To improve producer collaborations: Producers and processors are important to each other.⁸⁰ **Associations** should appoint sector representatives from other segments onto their respective boards, or to advisory committees, to encourage constructive dialogues and collaborations.

Metrics

The aforementioned strategy is designed to help create better outcomes for food manufacturers and investors and Canadian producers and communities. Industry and government need to work together to develop appropriate metrics to track progress. A key metric is tracking investment flows and trends — and increasing domestic company investment here and attracting new foreign investment to Canada. A second key area for metric-development is sector performance, notably the trade balance. Ultimately, it is about consumers (here and abroad) wanting to put Canadian food on their plates and driving up demand of Canadian-produced/processed food.

Industry and government need to work together to define and agree on the best metrics to gauge performance against both goals, noted above.

Conclusion: Desired outcomes

Attention to the needs of the food manufacturing sector is increasing. Governments are giving greater visibility and support to the sector, at all three levels. Industry associations are creating new initiatives to respond to company needs, not only through their expected advocacy work but in terms of working with others to support skills development, entrepreneurship and innovation. A variety of support players are also doing more to focus on the needs of this important segment, including various financial institutions, general business organizations, business schools, researchers and others. Associations representing processors and producers are doing more to work together to advance common interests. The sector is, more and more, a priority worth supporting.⁸¹ This argument has become increasingly hard to ignore with the sector recently becoming the number one manufacturing sector in Canada. But the sector continues to face increasing challenges.

CAP's objective is to build on this momentum by accelerating and strengthening the response. By bringing greater depth of insight (research) and new ideas (such as the case studies on company success), we offer new perspectives to foster dialogue. The overall objective of these goals and actions, set out in the strategy map, is to frame a clear approach to create action. Ultimately, it is about creating a better place for food manufacturers to expand their businesses and locate here – benefiting the Canadian economy, producers and communities.⁸² We have focused on two broad goals to make this happen. One is largely in the domain of food companies themselves, and involves how they must find ways to differentiate what they do (and achieve this by enhancing productivity). The other goal is about how governments and other supportive stakeholders can help companies succeed.

In short, this is one pathway toward steadily improving the trade balance in processed food,⁸³ one that will help attract greater investment to the sector, support company growth and, in the end, result in more consumers choosing Canadian food.

What needs to happen

CAPi is now working with a broad spectrum of partners to act on several specific ideas. Many other initiatives are underway to help advance the sector's prospects for improved competitiveness. Such initiatives include food processing associations, governments, financial institutions and professional advisors. And there are a variety of joint efforts being undertaken. Given the size of the sector, many stakeholders and complementary actions are required. Our work prompts the following key questions for stakeholders:

1. **For food processing companies (CEOs) and investors:** How does your company line up with the strategy map?
2. **For food processing industry associations:** How can CAPi's work change the way advocacy and outreach occurs?
3. **For supply chain partners:** How can the broad array of supply chain and/or support players (e.g., packaging, technology, equipment vendors, etc.) become fuller partners in helping companies to differentiate and be more productive?
4. **For producers:** How can this strategy be a catalyst to shift to more strategic thinking about the critical importance of processing to their success?
5. **For government:** How can inspiring stories among food manufacturers (i.e., an export success, a new investment, an innovative product, etc.) become embraced as, essentially, a story of success of government policy and action to help nurture such success?
6. **For financial institutions:** How can financial institutions use the strategy map as a basis to identify and mitigate client risks and help companies generate growth opportunities?
7. **For academics/researchers:** What new data, models and insights are required to ensure we better understand change (i.e., threats and opportunities) facing the country's top manufacturing sector over time?
8. **For research and development and innovation specialists:** How can this diverse innovation segment align with companies at all stages of growth to help advance their differentiation and productivity focus?

Does the trade deficit matter?

1. Primary and secondary food manufacturing

When we launched this project, we explored the growing trade deficit in secondary processed food products, beverages, spirits and vinegar (HS IV, excluding tobacco).

The graphic that set off the inquiry (updated) is shown below.

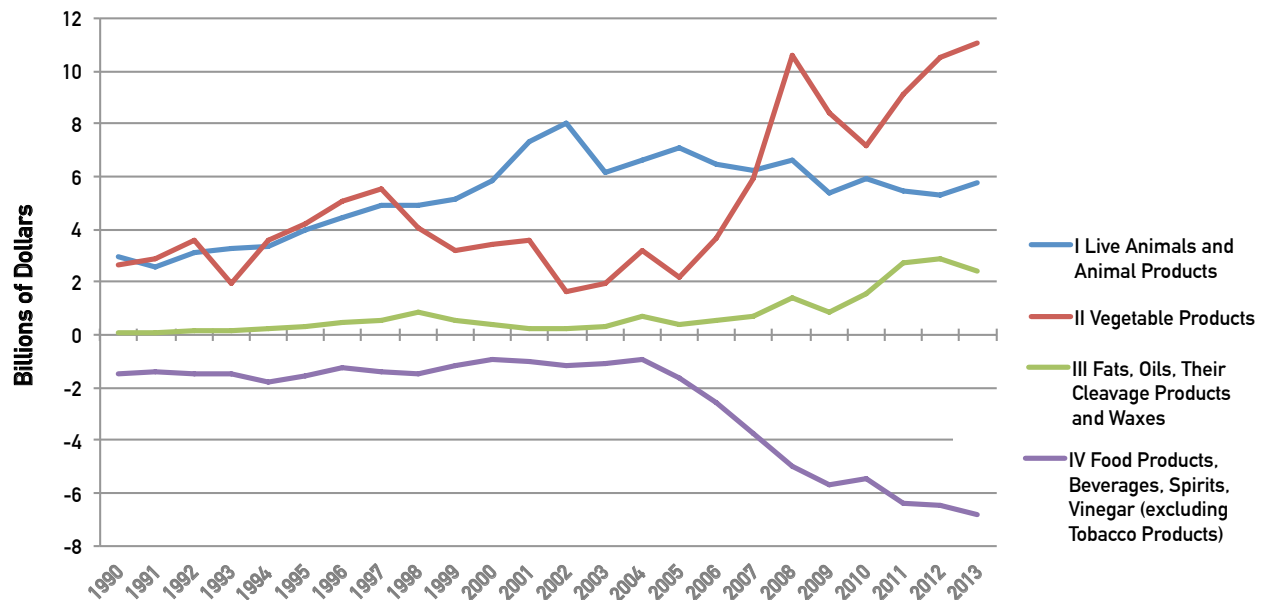


Figure 7: Canada's agri-food net trade 1990-2013.

Clearly, the processed food category stands out in comparison with the other three trade balances, which include Canada's commodities and primary processed products (HS I, II, and III).⁸⁴ This prompted three questions. First, why is the trade deficit growing for HS IV? Second, can we find specific categories within HS IV that are contributing to the growing deficit? And finally, does it matter? Earlier research reports (see project 1a and 1b) addressed the first two questions.

One of the difficulties in answering the question "does it matter?" is that HS IV really covers only secondary and tertiary food processing. It does not include initial processing for a wide range of agricultural commodities. This includes harvesting animals for carcasses, primals, intact meats and offals, which are contained in HS I. Equally, a number of processed dairy products are included in this category. In Vegetable Products (HS II), there is considerable food processing of cereals into flours, meals, starches, flakes and processed fruits, vegetables and spices. Within HS III, one finds oilseed crushing for oil including canola and other oilseed oils.

To tackle this issue, the trade data for a number of the initially processed products were selected and added to the trade data for HS category IV. Broadly, the groups included were edible meats and offals, dairy, honey and egg products, processed cereal and other vegetable products, and the vegetable and animal oils. The HS codes for those included are shown in the Annex.

The net trade across the selected primary processed products of agriculture detailed in the endnote is shown in Figure 8. Substantial growth in net trade in primary processed food products has taken place over the past 23 years, rising from a small trade deficit in the early 1990s to more than \$2 billion in the most recent years. However, growth in primary processing exports in total stalled in the early 2000s and has been moving sideways at best since that time. Five categories can be used to calculate the trade balance:

- ☐ HS I: Meat and offals⁸⁵
- ☐ HS I: Products of dairy, honey and eggs
- ☐ HS II: Products of cereals and oilseeds (excluding oils)⁸⁶
- ☐ HS II: Processed fruits, vegetables and spices⁸⁷
- ☐ HS III: Fats and oils

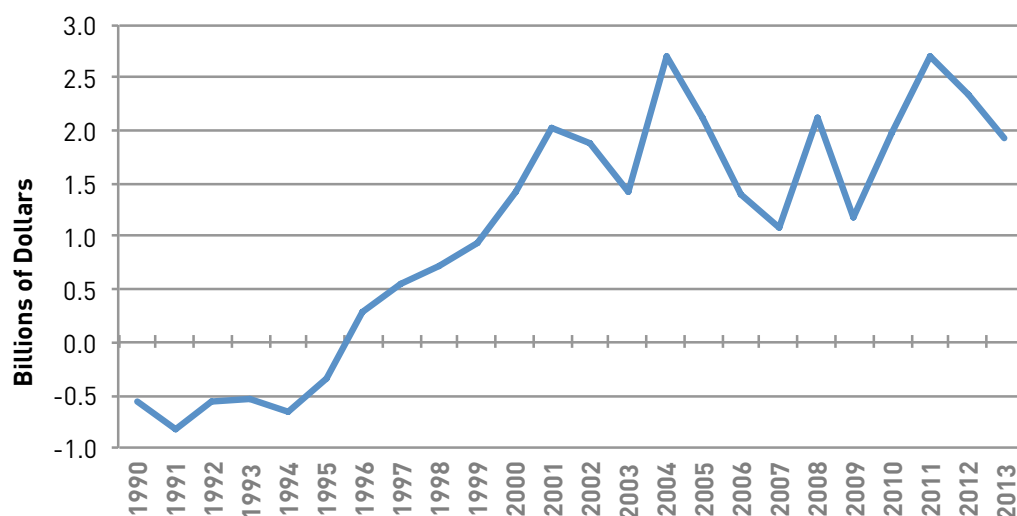


Figure 8: Net trade in Selected Primary Processed Foods in HS I, II and III.

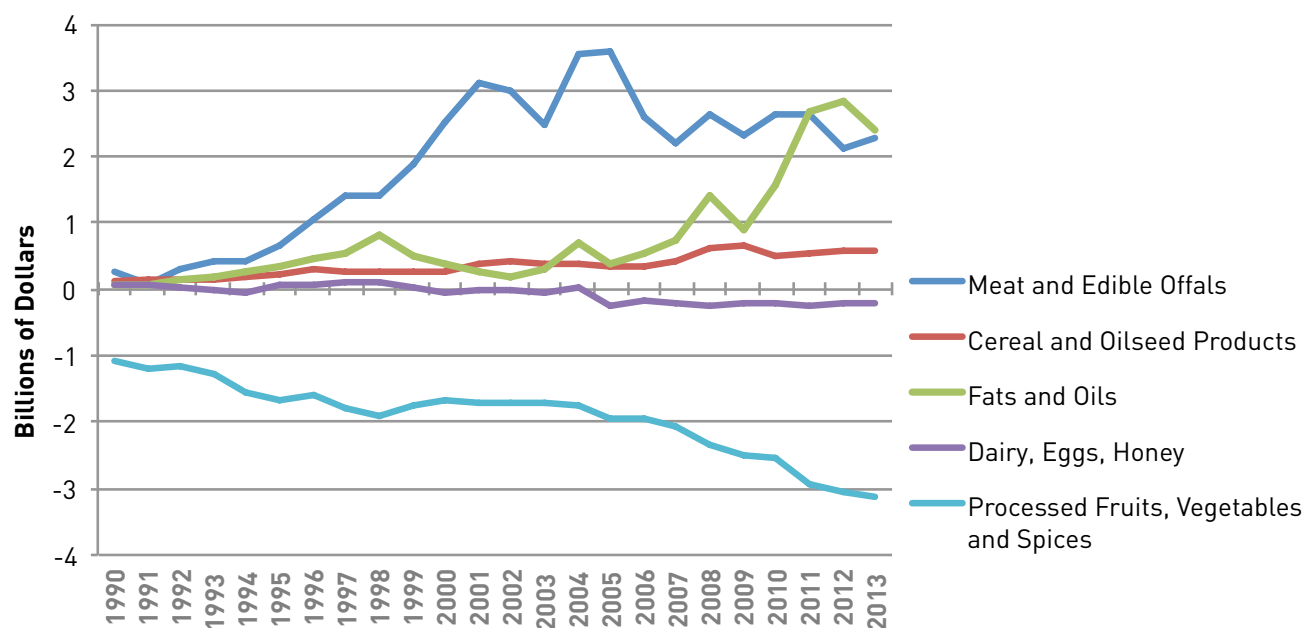


Figure 9: Net Trade in Selected Primary Processed Products of Agriculture in HS I, II, and III.

In Figure 9, meat and offals remain positive but not growing; fats and oils, and products of cereals and oilseeds indicate positive net trade balances and growth. Processed fruit and vegetables show a steadily declining trade balance over the period, reaching greater than negative \$3 billion by 2013. The products of dairy, honey and eggs were largely in balance for most of the period, ending at a slightly negative trade balance in the most recent years.

By adding together the selected products from HS I, II, and III with HS IV (excluding tobacco), the apparent net trade in processed food from agricultural products has dropped sharply from 2004 to 2013 (Figure 10). The decline in trade balance is almost entirely due to the decline in two groups, HS IV and the decline in the processed fruits, vegetables and spices. Nonetheless, the resulting net trade from all processed agricultural products is negative since 2006, and shows little sign of recovery.

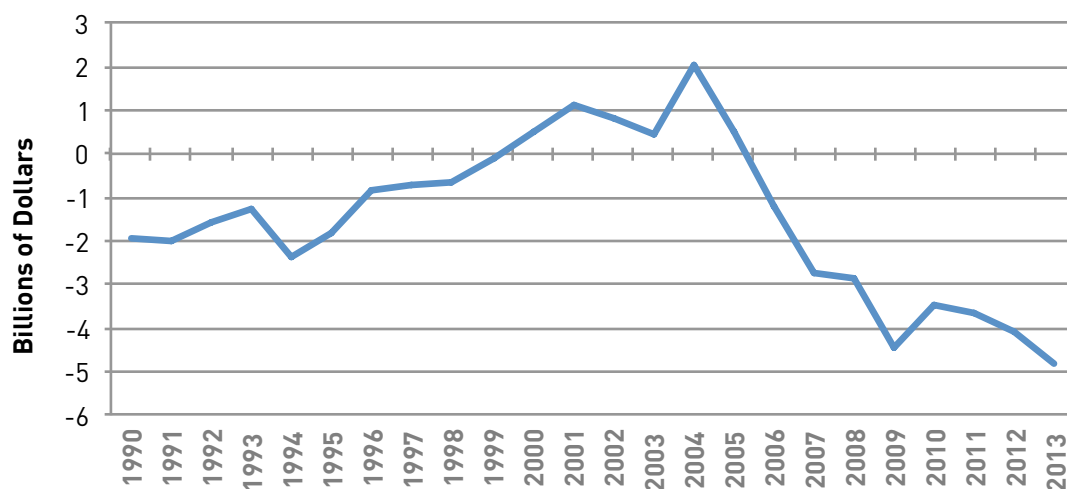


Figure 10: Net trade in Primary, Secondary and Tertiary Food Processing.

Figure 15 (see page 29) shows the trade balances for each of the selected HS categories in meats, products of cereals and oilseeds, dairy, honey and eggs, and fats and oils in five-year intervals from 1990 to 2013. The products are ordered from the smallest to largest trade balances in 2013. The rapid and sharp changes in the meat of bovines (HS 0201) account for over \$1.5 billion of the decline in the trade balance after 2005. The more than \$5-billion decline in food processing (HS IV) after 2004 accounts for almost all of the rest of the drop in the net trade balance from 2004 to 2013. Virtually all the growth in net trade has occurred in only four commodities: canola oil, pork, edible offal, and malt. This is a very narrow base for positive net trade and value added from agricultural commodities. Figure 16 (see page 30) provides the trade balances for the processed fruits, vegetables and spices group. Clearly, the vast share of the trade deficit in this group arises from the tropical products for which Canada has no capacity to produce, even though Canada does process and export each of the products in this group.

2. Comparison with the NAICS Data

To verify the net trade patterns for processed food from agricultural commodities shown by the HS trade data and the selection of products used for the calculations, similar data were examined using the NAICS trade classifications (Figure 11). “NAICS” refers to the North American Industry Classification System, another measure of economic performance. The NAICS categories are identified in the Annex. The comparison is shown in Figure 11.

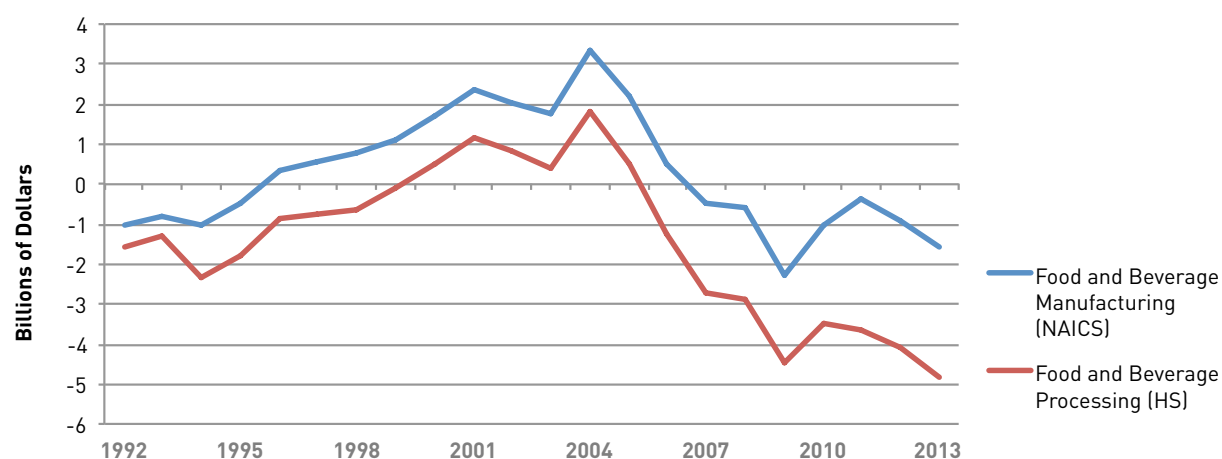


Figure 11: Comparison of Net Trade Calculations in Food Processing and Manufacture.

The turning points in the two data sets are identical with the peak in 2004; the only difference is level of trade deficit in the most recent years. The difference in level can be explained by removing fruits and vegetables (NAICS 3114: Fruit and Vegetable Preserving and Specialty Food Manufacturing and the Fruits, Vegetables and Spices Group from the HS data). The results are shown in Figure 12. The reason for excluding the fruits and vegetables for Figure 12 is that there are several categories for fruits and vegetables in the HS data that do not distinguish between fresh and dried or otherwise processed fruits and vegetables. Where they could not be distinguished, the HS categories were included in the fruits, vegetables and spices grouping.

By both measures, Canada enjoyed a growing positive trade balance in food processing and manufacture from the mid-1990s to 2004, peaking between \$2 and \$3.5 billion depending on the choice of estimate. Thereafter, there was a steady decline in the net trade balance, turning negative by 2006-2007, and continuing to fall until 2009. In the most recent years, the level of the trade deficit appears to have stabilized slightly above its lowest point in 2009.



Figure 12: Comparison of Net Trade Calculations in Food Processing and Manufacture (excluding fruits, vegetables and spices).

3. Importance of the Food Manufacturing Sector

The question at hand is “does this trade deficit matter?” This was addressed somewhat in earlier CAPI work.⁸⁸ In short, the answer is “yes,” given the status of food manufacturing as the country’s largest manufacturing sector by two measures, GDP and employment. Moreover, food manufacturing is a channel to market for nearly 40% of all of Canada’s agricultural output and in some provinces this figure is substantially higher.

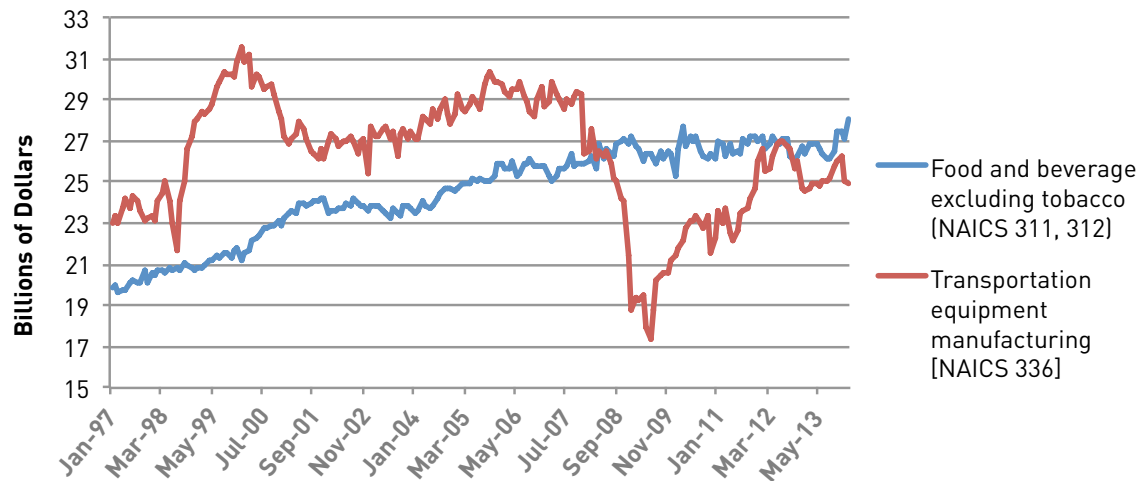


Figure 13: GDP: Food and Beverage (excluding tobacco) compared with transportation equipment (chained 2007 dollars).

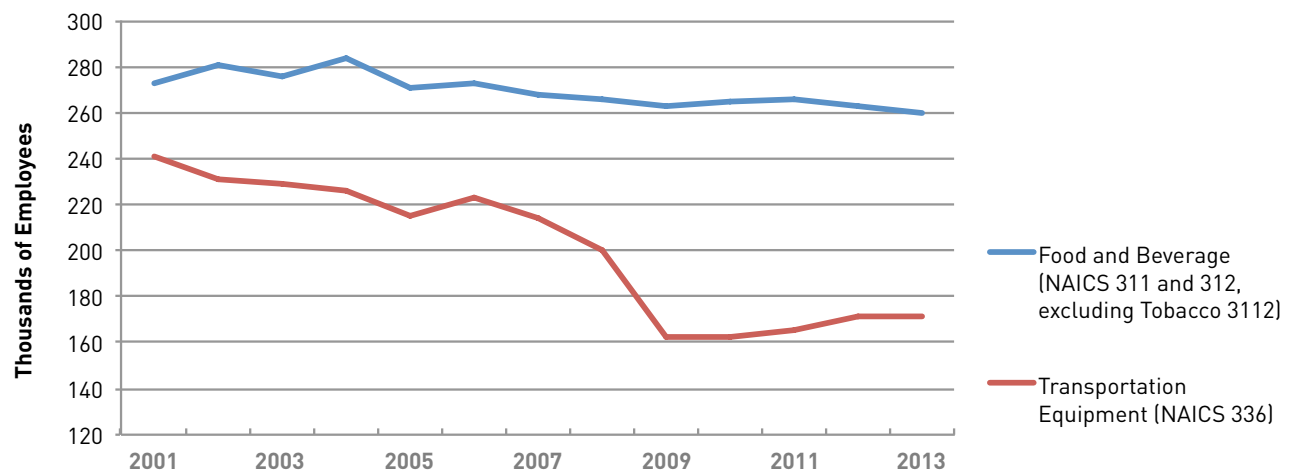


Figure 14: Employment in Food and Beverage Manufacturing and Transportation Equipment (July estimates).

In GDP terms, the food and beverage manufacturing industry in Canada represented 5.8% of our goods-producing industry (NAICS T001) and 16.6% of the manufacturing industries (NAICS 31-33) in 2013. It is the largest manufacturing industry in Canada by GDP (Figure 13), larger than the transportation equipment sector (autos, aerospace, etc.), which is the second-largest manufacturing industry. In terms of employment, the food and beverage industry is also the largest employer in the manufacturing sector, employing more than 259,000 people in July 2013, 17.1% of manufacturing employment in Canada (Figure 14). At the same time, the transportation equipment industry employed 171,000 people, 11.3% of manufacturing employment.

With one-sixth of both GDP and employment, more than any other manufacturing sector, the food and beverage industry is an important component of the Canadian economy.

4. Leading Manufacturing Position vs. the Rising Trade Deficit

CAPRI believes that the trade balance is a surrogate measure of competitiveness but it has one major limitation – it does not represent domestic consumption. The importance of GDP is that it measures all economic activity, whether for use or consumption here or abroad; in addition to its leading rank as a manufacturing employer (noted above), there are other measures of the size and economic impact of the food manufacturing sector.⁸⁹ However measured, how can Canada's largest manufacturing sector also be facing rising trade deficits?

In part, the answer is that Canada's domestic market absorbs much of its food manufacturing output. Food is also relatively "recession proof" in that, unlike other manufactured goods, people cannot go without food. Food exports can also remain robust for the same reason, as global consumers are served by what Canadian food manufacturers produce. This demand kept the food manufacturing sector relatively healthy, while the auto sector witnessed a major recent economic decline. A steady performance in food manufacturing complemented by a decline in the auto (and other transportation equipment) manufacturing sector "propelled" food manufacturing into the number one manufacturing segment, notwithstanding the over \$6-billion (HS IV) trade deficit in secondary processing.

The nature of the trade deficit is also important to understand. This was addressed in some detail earlier in projects 1a and b. In some key products, rising imports are not considered worrisome, notably the growth of tropical products that Canada has no capability to produce. Wine is an important and successful sector in Canada but this industry simply does not have the capacity to meet domestic demand. Wine has a \$2.9 billion deficit. The country has a growing trade deficit in the processed fruit, vegetable and spice industry. The issue is that there is a narrow base of processed products on which Canada is relying for positive net export performance. Notably, canola products are a major positive performer, with a surplus at \$2.7 billion. Canada has experienced a dramatic decline in net trade for beef – a matter that was studied in depth by CAPRI in a separate project in 2012.⁹⁰ While there are important exceptions, Canadian-based processing plants are not serving as a growth platform for exports.

So, where will future growth for this major economic sector come from? Investment is the key to improving productivity, seeking out new growing markets and turning around the deficit. A recent paper commented on the correlation between falling investment flows and trends and the level of the trade balance.⁹¹ It pointed out that Canadian firms have been expanding investment abroad, essentially to locate production near the markets they intend to serve. Meanwhile, the U.S. and Europe have been investing in Canadian firms in Canada, and bringing with that investment the technology to achieve efficiency in production. Moreover, the overall investment in food processing in Canada has declined steadily over more than 10 years, although investment in machinery and equipment has begun to increase in the past three years, a trend that may have played a role in the slowing of the deepening trade deficit.

Maintaining and expanding this investment will be critical to reversing the current trends in trade. The federal AgriInnovation Program is designed to expand opportunities in the sector. The extension of the Accelerated Capital Cost Allowance for the industry could also serve to strengthen investment interest within Canada.



Figure 15: Net trade in primary processed products by five-year intervals, excluding fruits.

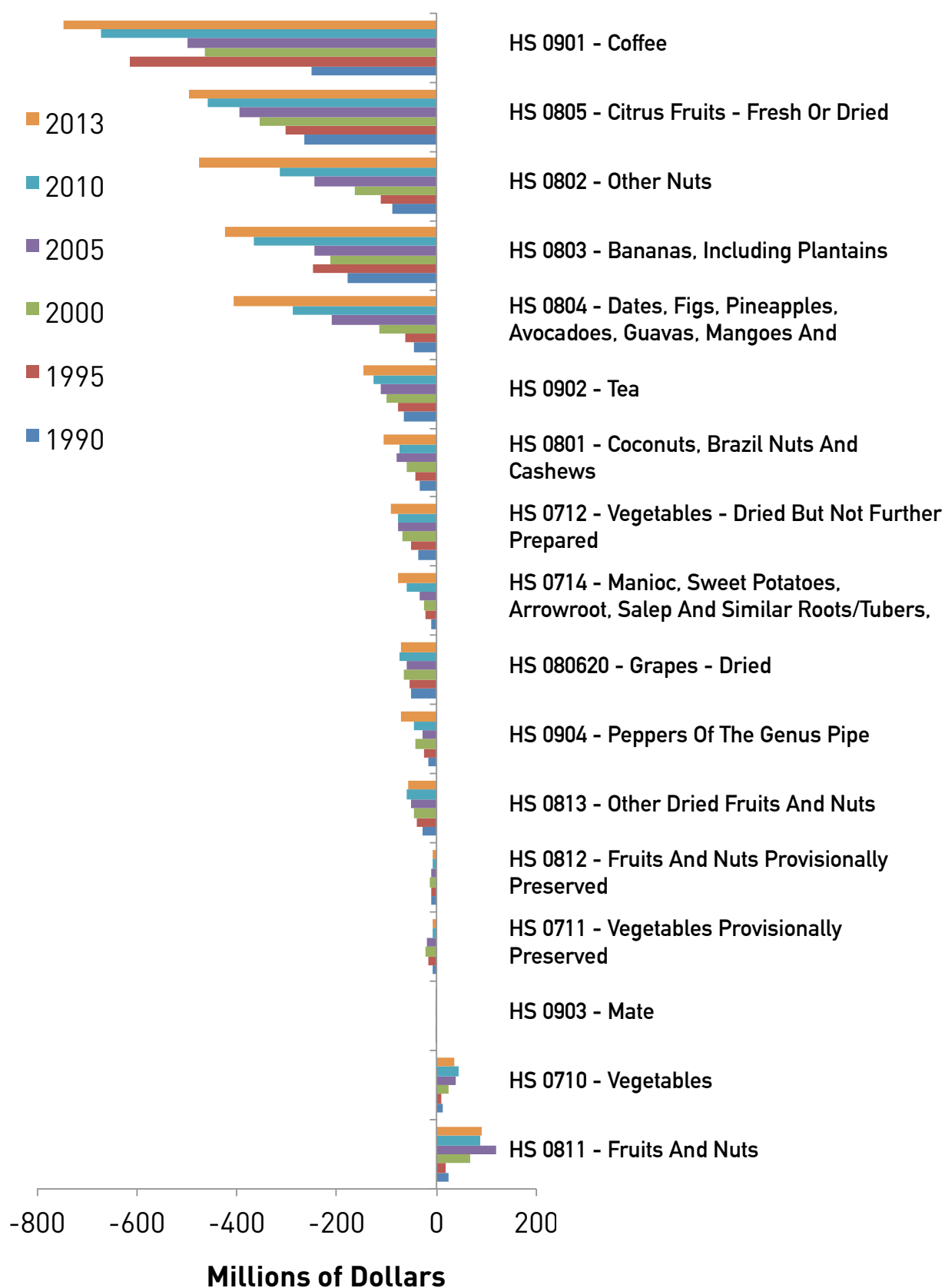


Figure 16: Net trade in fruits and vegetables by five-year intervals, excluding spices.

Overview of consultations and partners

In late 2012, the CAPI Processed Food Research Program began with the publication of a report on the trade deficit in processed food. Since then, CAPI has conducted a comprehensive research and outreach effort. We have appreciated receiving considerable advice and ideas from across the sector and across the country from many diverse stakeholders. The following is indicative of such input and is not a complete listing:

Financial Contributors

Alberta Agriculture and Rural Development
Export Development Canada
Farm Credit Canada
Food & Consumer Products of Canada
Industry Canada
La Coop fédérée
Ontario Ministry of Agriculture and Food
PEI BioAlliance

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Douglas Hedley
George Morris Centre
Industry Canada
Institut sur la nutrition et des aliments fonctionnels (INAF)
Ivey School of Business
Québec International
Schulich Executive Education Centre
Small Scale Food Processor Association (B.C.)

Partners and Consultations (can represent multiple people per organization):

AFM Canada
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Agricultural Adaptation Council
Alberta Agriculture and Rural Development
Alberta Innovates Bio Solutions
Alliance of Ontario Food Processors
Andrew Wu (LVMH Group)
Bank of Canada
B.C. Food Processors Association
B.C. Vegetable Marketing Commission

Bloom Centre for Sustainability (BLOOM)
Bonduelle Americas
Boulangerie St-Méthode
British Columbia Ministry of Jobs, Tourism and Skills Training
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Manitoba Food Processors Association
Maple Leaf Foods
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Marsan Foods
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Mitacs
Mitchell's Soup Co.
Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec
Ministry of Agriculture,
Government of Saskatchewan
MNP
Munir Sheikh
National Research Council Canada
Nature's Path
Navigant
Ocean Spray
Ontario Chamber of Commerce
Ontario Ministry of Agriculture and Food
Pattison Farms
PepsiCo Foods Canada
Pinty's
Premium Brands
Provision Coalition
Rabobank
Reinhart Foods
RJW Consulting
Royal Bank of Canada
Sandel Foods
Saputo
Scotiabank
SJT Solutions
Sobey School of Business, Saint-Mary's University
Statistics Canada

Sun-Brite, Unico, Primo
Tabletree Juice
Tamarac Fresh Cut Foods
TD Bank
The Vinegar Works at Valentine Farm
Toronto Region Board of Trade
Transcold Distribution
Université Laval
University of British Columbia
University of Guelph
University of Northern British Columbia
University of Saskatchewan
University of Toronto
University of Winnipeg
VanCity
Viandes de Breton
Vigneault Chocolatier
Vineland Research & Innovation Centre

CAPI also acknowledges many conversations with various food processing companies and sector associations who wished to remain anonymous.

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Overview of CAPI research reports and projects

- Project 1a: *Understanding the Processed Food Trade Balance*, CAPI, 2013.
- Project 1b: *What's Happening in Processed Food – Understanding Competitiveness in Selected Industries*, CAPI, 2014.
- Project 2: *Drivers of Canadian Food Processing Competitiveness: Macro Factors and Micro Decisions*, George Morris Centre, 2014.
- Project 3a: *The Performance of Canada's Food Manufacturing Industry*, Ivey Business School, 2014.
- Project 3b: *The Changing Face of Food Manufacturing in Canada: An Analysis of Plant Closings, Openings and Investments*, Ivey Business School, 2014.
- Project 4a: Individual case studies on thirteen food companies; multiple business schools, 2014:
1. Bonduelle Americas, Schulich School of Business
 2. Club Coffee, Schulich School of Business
 3. Domaine Pinnacle, Université Laval, INAF and HEC Montreal
 4. Ferrero Canada, Ivey School of Business
 5. Groupe Leclerc, Université Laval, INAF and HEC Montreal
 6. Heritage Frozen Foods, Haskayne School of Business
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 10. Maple Leaf Foods, Ivey School of Business
 11. PepsiCo Foods Canada, University of Winnipeg
 12. Premium Brands, University of British Columbia
 13. Saputo, Ivey School of Business
- Project 4b: *Food Processing Company "Traits of Success": Cross Case Analysis*, CAPI, 2014.
- Project 5: *Differentiate to Compete: the Consumer Perspective*, CAPI, 2014.
- Project 6a: *Capital Investment in Canadian Food Processing*, Douglas Hedley, 2014.
- Project 6b: *Talent, Skills and Innovation*, CAPI, 2014.
- Project 6c: *Food Processing Innovation and Off-Grade Food (Due to Imperfections): Drivers and Deterrents*, University of British Columbia, 2014.

Notes

- 1 Trade deficit of secondary processing by sub-sector (CAPI website, project 1a, sourced originally from Statscan data). As well CAPI project 1b examines several individual categories (in deficit and in surplus) to provide an overview of the drivers of trade performance.
- 2 Trade deficit beyond NAFTA: *The State of Canada's Processed Food Sector: Trade Balance*, Douglas Hedley and CAPI, November 2012.
- 3 Hedley, *Capital Investment in Canadian Food Processing*, project 6a.
- 4 Primary processing trade balance remains in a surplus but has been decreasing overall while recording growth in exports and imports (GMC, project 2); see also in this Conclusion the chart "Net trade in primary processed products by five year internals" (Figure 15).
- 5 Plant closings: 2006-2014; but 62 plants opened and 132 made major announced investments (Ivey Business School, project 3b).
- 6 Nature of plant closures: Ivey Business School, project 3b.
- 7 Job losses: Ivey Business School, project 3b.
- 8 Canadian currency appreciation is correlated to the rising trade deficit but is not a sufficient explanation given the variations in trade performance across manufacturing sectors and HS processing categories (CAPI, project 1b; GMC, project 2). The implications for food manufacturers of the rising dollar vis-à-vis the U.S. dollar (regarding the cost of importing foreign-made food manufacturing equipment) is noted in CAPI project 1b (section on HS 1902).
- 9 Some 23.5% of grocery retail is private label (Canadian Private Label: The Value Alternative, Nielsen, 2011).
- 10 Retail concentration: top four food retailers equal 62% of market concentration ("Market Concentration in Canada by Retail Sub-Sector", Consumer Trends Update - Summer 2013, Industry Canada, 2013 and GMC, project 2); grocery practices are noted in CAPI project 1b (section on HS 1601/1602).
- 11 Retail shelf-listing practices: GMC, project 2.
- 12 Changing consumer expectations (multiple mentions in CAPI, project 1b, profiling consumer trends impacting several food categories; GMC, project 2; and CAPI, project 5). Changing consumer tastes are important. See "Kellogg Company Announces Changes to Global Supply Chain Network," Kellogg Press Release, Dec. 10, 2013. "Kellogg's Ontario plant closing a casualty of changing tastes," Eric Atkins and Tavia Grant, *The Globe & Mail*, December 10, 2013.
- 13 Border challenges includes costs and delays and with differences in approach among agri-food regulatory agencies and is largely anecdotal. Efforts noted to improve cross-border trade via the Canada-U.S. Regulatory Cooperation Council (GMC, project 2). Thickening of the U.S. border and on-shoring developments by the U.S. is noted in CAPI project 1b (section on HS 1601/1602).
- 14 Project 1b; see chapter on HS 16.
- 15 NAFTA impact: most MNE closures are U.S. companies (Ivey Business School, project 3b).
- 16 State investment inducements: comments from Case Studies (project 4).
- 17 Global supply chains are referenced in a variety of ways in the profiles of several food segments and their respective supply chains in CAPI project 1b and in the multinational firms profiled in the Case Studies, project 4.
- 18 Liapis, P. (2011), "Changing Patterns of Trade in Processed Agricultural Products", *OECD Food, Agriculture and Fisheries Papers*, No. 47, OECD Publishing. <https://dx.doi.org/10.1787/5k9c3mq19s6d-en>.
- 19 Supply-managed inputs for food processing: some 35% of milk is used for cheese and nearly 8% for yogurt and ice cream; some 25% of eggs used in further food processing. Of Ontario's 19 marketing boards, five have the power to regulate production/market through quota (supply managed powers) and the remaining boards can negotiate prices with processors or have the authority to establish prices for their farm products. (GMC, project 2; Ivey Business School, project 3a; project 3b; Case Studies, project 4a.)

- 20 Food ingredient costs, as part of costs of materials and supplies, average about 65% of food manufacturers' total costs (Ivey Business School; project 3a). Another data set puts food and beverage manufacturing operating expenses at 57% (AAFC/Statistics Canada, 2008).
- 21 Non-food costs: energy costs, water, utility and vehicle fuel represents over 2% of food manufacturers' costs (Ivey Business School, project 3a). Note that Hydro Quebec issues an annual report on comparative hydro rates across North America. It reveals that the average prices for large-power customers (in ¢/kWh) is 4.88 in Montreal versus 10.89 in Toronto and 5.45 in Chicago, among a broad array of cities presented and for different customer segments. (Comparison of Electricity Prices in Major North American Cities, 2013).
- 22 Ingredient costs impacting investment decisions (Case Studies, project 4).
- 23 CAPI project 1b examines the trade balance performance of several food categories: processed meats, cocoa, pasta, bread, frozen potatoes, ketchup, beer and wine. Each situation is profiled and raises a broad number of regulatory issues, such as, environmental requirements referenced in the discussion of tomatoes in the overview of HS 2103.
- 24 The resilience in food manufacturing is somewhat expected in a recession; while consumer-food patterns can and do shift (people driven by being more price conscious), "people still need to eat" whereas other consumer product categories (cars) are negatively-impacted.
- 25 Ivey Business School, project 3a.
- 26 Ivey Business School, project 3a.
- 27 *The Performance of Canada's Food Manufacturing Industry – Revisited*, Kevin Grier, George Morris Centre, March 2014.
- 28 Jobs performance: Ivey Business School, project 3a.
- 29 Ivey Business School (project 3b) and CAPI interviews with companies and Case Studies (project 4).
- 30 Sales performance: GMC, project 2; Ivey Business School, project 3a.
- 31 Ivey Business School, project 3a.
- 32 *The Performance of Canada's Food Manufacturing Industry – Revisited*, Kevin Grier, George Morris Centre, March 2014.
- 33 George Morris Centre, project 2.
- 34 Capacity utilization for food manufacturing in 2013 was just under 76% and "all manufacturing" was 80%. *The Performance of Canada's Food Manufacturing Industry – Revisited*, Kevin Grier, George Morris Centre, March 2014. Canadian plant capacity is noted in CAPI project 1b (section on HS 1601/1602).
- 35 CAPI analysis; moreover, the Bonduelle Americas Case Study (project 4a) demonstrated its efforts to achieve scale via its strategy of plant utilization.
- 36 Ivey Business School, project 3a, reports on a 20% increase in gross margins from 2004-2011 for primary and secondary processors. Deloitte reveals the margin squeeze from 2010-2012 for secondary processors (*Benchmarking for success 2014: Financial performance and trends within the North American food and beverage processing industry*, Deloitte.) And, the George Morris Centre reports on declining food processing profitability since 2009 (*The Performance of Canada's Food Manufacturing Industry – Revisited*, Kevin Grier, George Morris Centre, March 2014).
- 37 Investment indexed to 2000 shows that investment is increasing in food processing, but declining in beverage and tobacco processing (GMC, project 2; Ivey Business School, project 3a; and Hedley, project 6a).
- 38 An overview of issues facing food processors is found primarily in *Drivers of Canadian Food Processing Competitiveness: Macro Factors and Micro Decisions* (GMC, project 2) and in CAPI Case Studies (project 4).
- 39 Discussion on FDI and CDI from Hedley, project 6a.
- 40 Hedley, project 6a. The stable deficit in processed food correlates to a period of positive net investment (investment minus depreciation) in machinery and equipment (M&E). The subsequent decline in the trade deficit since around 2004 is reflected in the negative net investment in M&E for 10 years.

41 84% of SMEs have fewer than 50 employees. When comparing to plant openings/closings/announced investments, Canadian SMEs and larger Canadian firms are more active in restructuring, opening or investing than foreign-owned multinational enterprises (Ivey Business School, project 3b).

42 Quebec new openings: Ivey Business School, project 3b.

43 Quebec's trade balance in processed food is improving with rising exports and falling imports since about 2011. Ontario's trade balance is worsening at over \$4 billion (2012) due to rising imports (Statscan; CAPI research).

44 MNEs are differentiating their Canadian operations; see CAPI Case Studies on Bonduelle, PepsiCo, Ferrero. The retrenchment phenomenon also affected North American manufacturers to seek out low-cost regions (e.g., China, Mexico) and cheap labour was a driver (Ivey Business School, project 3A).

45 GDP source: Cansim Table 379-0031. Food manufacturing includes both primary and secondary processing.

46 Discussion on FDI and CDI from Hedley, project 6a. CDI has risen to \$8.5 billion in 2012 from \$2.7 billion in 1999.

47 Favourable corporate tax treatment is a driver of ensuring an attractive open-for-business climate. Raised in the Ivey Business School report (project 3b) and in feedback from CAPI Case Studies (project 4).

48 ACCA: Accelerated Capital Cost Allowance; this temporary program has likely been largely responsible for the rise in investment in machinery and equipment and expires in 2015 (Federal Budget 2014). The matter was raised in the George Morris Centre's report (project 2), the Ivey Business School's reports (project 3a and 3b) and in the case studies of successful companies (project 4).

49 Investment barometer: monitoring change in investment in machinery and equipment.

50 CAPI comments made to Industry Canada's consultation paper *Seizing Canada's Moment: Moving Forward in Science, Technology and Innovation*, 2014, by suggesting the need to include agri-food as a science and technology priority.

51 Industry-led R&D is a priority, such as shifting the mandate of the NRC and in funding federal innovation clusters.

52 The need to place skilled graduates into companies and ideas to support this are outlined in project 6b.

53 Incubation referenced in CAPI Case Studies (project 4); also advanced as an idea in the Alliance of Ontario Food Processors' report *Ontario's Food and Beverage Processing Industry Strategy: The NEW Engine of Ontario's Economy*, 2013. Incubation facilities need industry involvement and should be publicly-enabled and fully integrated with health/nutrition and sustainability expertise, technology-development, consumer testing, etc.

54 The Scientific Research and Experimental Development (SR&ED)'s administrative complexity is raised in the Ivey Business School report (project 3b) and in feedback from Case Studies (project 4) and in company feedback to CAPI. A variety of initiatives are underway to streamline regulations, such as the Canada-United States Regulatory Cooperation Council (which is addressing regulatory transparency and coordination between the two countries) and modernizing the health claims approval process for new products.

55 Positioning Canada as a test-bed to develop global food-health solutions as a potentially attractive way to entice global food companies to do R&D in Canada was expressed in CAPI's report *Differentiate to Compete: the Consumer Perspective*, project 5.

56 Having a single desk regulatory solution was addressed in the Ivey Business School report (project 3a) and it was also flagged as a priority issue by the Food Processing Industry Roundtable, March 2014. Environmental regulatory compliance was raised in the Ivey Business School report (project 3b) and in CAPI dialogues with food companies.

57 The important role that municipalities play is raised in the Ivey Business School's report (project 3b) and in feedback from the Case Studies (project 4). The issue of having enabling urban transportation infrastructure was raised in both.

58 This idea was inspired by the observations made in the Case Studies, project 4. The selected foreign-owned and privately-held firms appeared to be particularly comfortable in choosing Canada in which to invest and that Canada's business climate and society were conducive to investing in this country. This suggests (possibly) that more could be done to specifically target and attract international privately-owned companies.

59 The importance of infrastructure was referenced in the CAPI Case Studies (project 4a) and in the Ivey Business School's report (project 3b).

60 “Natural advantages” include: soil, water, low-residue ingredients, etc. “Societal advantages” include regulatory and governance structures, a Canadian reputation for collaboration, and our high quality of life, etc. Canada’s ethnic-diversity is a social competitive advantage. The CAPI Case Studies (project 4) revealed that Canada offers multiple advantages to attract investment. Connecting processing opportunities to agricultural output and other societal advantages was also acknowledged by the Toronto Board of Trade: Food & Beverage Cluster Forum: “The Time is Ours”, March 27, 2013 (<http://www.bot.com/advocacy/Documents/Clusters/FoodandBeverageClusterReport2013.pdf>).

61 The following ideas were initially presented by CAPI in *Building Blocks of Success*, July 2013 (http://www.capi-icpa.ca/pdfs/2013/CAPI_BuildingBlocks.pdf) and the factors of success were further developed by the CAPI Cross Case Analysis (project 4b).

62 Ideas about leadership and talent are well developed in projects 4a and b.

63 Developing external relationships extends well beyond the classic sense of “networking” and can enable companies to enter markets, develop solid customers, promote the company and find innovative solutions to problems. This finding was highly evident in the Case Studies on companies (project 4a) and was identified as a key condition of success in the CAPI *Cross-Case Analysis* (project 4b). This idea to support executive exposure abroad is intended to make and deepen those relationships to help enable business activity.

64 “Scale resilience” was addressed in CAPI’s concluding comments in *What’s Happening in Processed Food – Understanding Competitiveness in Selected Industries* (project 1b).

65 How multinationals can compete in Canada is addressed in CAPI’s report, project 1b, and in the Case Studies of successful companies (project 4).

66 “How companies grow” is addressed as a separate section in the CAPI Cross Case Analysis (project 4b).

67 Case Studies (project 4a) revealed how PepsiCo Foods Canada, InfraReady and Ferrero Canada all developed their businesses in Canada because of the availability of key ingredients, among other reasons. As well, Saputo and Premium Brands have invested outside of Canada because of the limitations of supply management.

68 Marketing boards referenced in CAPI project 1b (reference to tomatoes in the overview of HS 2103 and to grapes, HS 2204). Supply management raised in the George Morris Centre’s report (project 2), the Ivey Business School’s report (project 3b), and in feedback from the Case Studies (project 4) – on supply management and marketing boards. In addition, the following quote was supplied by the Canadian Dairy Commission after a dialogue with CAPI: “Canadian dairy policy needs to evolve by creating a more flexible supply management system to stimulate growth.” (March 2, 2014).

69 Refer to *Differentiate to Compete: the Consumer Perspective* (project 5). See also the document about opportunities in China on CAPI’s website: *Charting a Path for Global Growth: 5 Reasons Why China Offers Unprecedented Opportunities for Canadian Agri-Food Companies*. Chinese consumers are increasingly looking to western-produced foods on the basis of safety, health and wellness as well as for taste and other attributes.

70 Consultations with the City of Toronto. See also CAPI project 5.

71 The Alliance of Ontario Food Processors promotes a similar ambassador program in *Ontario’s Food and Beverage Processing Industry Strategy: The NEW Engine of Ontario’s Economy*, 2013; CAPI further specifies targeting foreign students studying in Canada and, with support, returning home to become such ambassadors. Note that the number of foreign students in Canada has risen by 94% since 2001 to over 265,000 in 2012 (Canadian Bureau for International Education, <http://www.cbie-bcei.ca/about-ie/facts-and-figures>).

72 Tapping into or serving Canada’s ethnicity is addressed in project 5, *Differentiate to Compete: the Consumer Perspective*. This issue is also profiled in CAPI project 1b as a driver of changing consumer food tastes.

73 Increasingly, consumers want to know where their food comes from, what’s in it and whether it contributes to health and well-being, or harms eco-systems, etc. As noted in the CAPI report *Differentiating to Compete: the Consumer Perspective* (project 5), the Canada brand can be a source of differentiation and a basis of consumer trust. The Canada brand is raised by many food companies as an issue to address. Given the stringent threshold to be considered “Canadian”, the lack of usefulness of the Product of Canada label for food processors has been raised frequently by companies in discussions with CAPI; it was also raised in CAPI project 1b (reference to tomatoes in the overview of HS 2103).

74 CAPI will be undertaking a separate initiative to examine the agri-food sector's preparedness for an emerging trade environment in 2014-15, including the holding of trade dialogues on the subject.

75 One topic that may arise is whether any change [enhancement] is required to Canada's agri-food trade counsellors service abroad; there were positive mentions of trade commissioners made in the CAPI Case Studies (project 4a).

76 Andrew Wu in *Charting a Path for Global Growth: 5 Reasons Why China Offers Unprecedented Opportunities for Canadian Agri-Food Companies*, CAPI.

77 Estimate, Perry Caicco, Managing Director, Equity Research, CIBC World Markets.

78 Perry Caicco, Managing Director, Equity Research, CIBC World Markets, *The Forgotten Consumer, Grocery Business*, March/April 2014.

79 Refer to project 6c; note this paper identified, for instance, that some 30% of cherries sent to packing houses were deemed off-grade even though 90% of them were still edible. This approach is applied by Ocean Spray, one of the biggest names in cranberries, which selects fruit based on what remains as dried fruit (Craisins) and what is directed to sauces/juices.

80 The importance of primary agriculture and the processing sector was raised in CAPI project 1b, which profiled how quality ingredients provided processing opportunities (e.g., potatoes used for frozen potatoes/French fries, HS 200410, supplying wheat for the bakery sector, HS 1905, and some 30% of the malting barley produced in Canada is used here by Canadian brewers, HS 2203); the Ivey Business School's report (project 3b); and multiple references were made in the Case Studies (project 4).

81 National and provincial industry associations are focused on helping to grow the sector; government initiatives to grow the sector include the Ontario and Saskatchewan governments' strategies (and associated targets to expand exports, increase revenues, etc.) and food processing is included among a list of manufacturing sectors in Canada's Economic Action Plan 2013: Creating High-Paying Jobs and Helping Businesses Succeed, Budget 2013; the federal Food Processing Industry Roundtable has also been recently active in reviewing ideas for a go-forward strategy.

82 Today, there are over 6,000 food processing companies and, overall on average, nearly 40% agricultural production channeled through Canadian processors; this number well exceeds 60% for Ontario and Quebec. These numbers include primary and secondary processing activity.

83 The metric is in reference to both primary and secondary processing.

84 HS stands for the World Customs Organization's Harmonized Commodity Description and Coding System for trade statistics as made available by Statistics Canada. This use of HS codes was explained in *Understanding the Processed Food Trade Balance, A Preliminary Overview of Project 1*, October 2013, CAPI.

85 Because the focus for the research is on products of agriculture, products of the sea were not included in HS I for the calculations and graphics.

86 Peas, beans and lentils were not included in "processed" products from HS II.

87 In selecting HS categories for fruits, vegetables and spices, all six digit categories indicating dried, frozen, processed, etc., were included. Some categories combine both fresh and processed and have been included unless they can be separated at eight digit level, e.g., grapes, dried and fresh. Canada was an exporter in all of the HS categories used.

88 See project 1b which examines selected products and explains why they are experiencing trade deficits and surpluses and the impacts. As well, project 3a looks at the size and impact of the food manufacturing sector.

89 As shown in previous work (project 3a), food manufacturing generates revenues of nearly \$90 billion, although this figure includes revenues of goods sold in Canada that have been processed elsewhere and imported by multinationals in Canada.

90 *Canada's Beef Food System: A Roadmap for Dialogue on Strategy*, September 2012.

91 *Capital Investment in Canadian Food Processing*, Douglas Hedley and CAPI, April 2014 (project 6a).

Annex

Data sources

All HS data are drawn from the Trade Data Online from Industry Canada at:

<https://www.ic.gc.ca/app/scr/tdst/tdo/crtr.html?&productType=HS6&lang=eng> Accessed 11-15 April 2014.

The HS categories

Meat and Edible Offals

HS 0201 - Meat of Bovine Animals - Fresh or Chilled

HS 0202 - Meat of Bovine Animals - Frozen

HS 0203 - Meat of Swine - Fresh, Chilled or Frozen

HS 0204 - Meat of Lamb, Sheep And Goats - Fresh, Chilled or Frozen

HS 0205 - Meat of Horses, Asses, Mules or Hinnies - Fresh, Chilled or Frozen

HS 0206 - Edible Offal - Bovine, Swine, Sheep, Goat, Horse, Ass, Mule, Hinny - Fresh, Chilled or Frozen

HS 0207 - Meat and Edible Offal of Domestic Poultry - Fresh, Chilled Or Frozen

HS 0208 - Meat and Edible Offal of Rabbits, Frogs and Other Animals - Fresh , Chilled or Frozen

HS 0209 - Pig Fat, Free of Lean Meat, and Poultry Fat, Not Rendered or Otherwise Extracted, Fresh Chilled, Frozen

HS 0210 - Meat and Edible Offals of Bovine, Swine and Other Animals - Salted, In Brine, Dried or Smoked

Dairy, Eggs and Honey

HS 0401 - Milk/Cream - Not Concentrated, Powdered or Sweetened

HS 0402 - Milk/Cream - Concentrated or In Powder

HS 0403 - Yogurt, Buttermilk, Curdled Milk and Cream, Kephir and Other Fermented Milk

HS 0404 - Whey and Products Consisting of Natural Milk Constituents

HS 0405 - Butter, Dairy Spreads and Other Fats and Oils Derived From Milk

HS 0406 - Cheese and Curd

HS 0407 - Birds' Eggs, In Shell, Fresh, Preserved or Cooked

HS 0408 - Bird Eggs Not In Shell And Egg Yolks

HS 0409 - Honey, Natural

HS 0410 - Edible Products of Animal Origin NES

Products of Cereals and Oilseeds

HS 1101 - Wheat or Meslin Flour

HS 1102 - Cereal Flours (Other Than Wheat Or Meslin)

HS 1103 - Cereal Groats, Meal and Pellets

HS 1104 - Cereal Grains - Hulled, Rolled, Flaked, Pearled, Sliced or Kibbled; Germ of Cereals

- HS 1105 - Flour, Meal And Flakes Of Potatoes
- HS 1106 - Flour and Meal of Dried Leguminous Vegetables, Sago, Edible Fruits or Nuts
- HS 1107 - Malt
- HS 1108 - Starches (Inulin)
- HS 1109 - Wheat Gluten, Whether or Not Dried
- HS 1208 - Flours and Meals of Oil Seeds or Oleaginous Fruits (Except Mustard and Soya Beans)

Processed Fruits, Vegetables and Spices

- HS 0811 - Fruits and Nuts - Frozen
- HS 0710 - Vegetables - Frozen
- HS 0905 - Vanilla
- HS 0909 - Seeds of Anise, Badian, Fennel, Coriander, Cumin, Caraway or Juniper
- HS 0903 - Mate
- HS 0907 - Cloves (Whole Fruit, Cloves And Stems)
- HS 0814 - Peel Of Citrus Fruits or Melons (Including Watermelons)
- HS 0906 - Cinnamon and Cinnamon-Tree Flowers
- HS 0711 - Vegetables Provisionally Preserved But Not Suitable For Immediate Consumption
- HS 0812 - Fruits and Nuts Provisionally Preserved But Not Suitable For Immediate Consumption
- HS 0908 - Nutmeg, Mace And Cardamons
- HS 0910 - Ginger, Saffron, Curmura, Thyme, Bay Leaves, Curry and Other Spices
- HS 0813 - Other Dried Fruits and Mixtures of Nuts and Dried Fruits
- HS 0904 - Peppers of the Genus Pipe (Except Cubeb Pepper)
- HS 080620 - Grapes - Dried
- HS 0714 - Manioc, Sweet Potatoes, Arrowroot, Salep and Similar Roots/Tubers, Sago Pith - Fresh, Chilled, Froze
- HS 0712 - Vegetables - Dried But Not Further Prepared
- HS 0801 - Coconuts, Brazil Nuts and Cashews - Fresh Or Dried, Whether Or Not Shelled Or Peeled
- HS 0902 - Tea
- HS 0804 - Dates, Figs, Pineapples, Avocadoes, Guavas, Mangoes and Mangosteens - Fresh Or Dried
- HS 0803 - Bananas, Including Plantains - Fresh Or Dried
- HS 0802 - Other Nuts - Fresh Or Dried, Whether Or Not Shelled Or Peeled
- HS 0805 - Citrus Fruits - Fresh Or Dried
- HS 0901 - Coffee

Fats and Oils (all of HS 150)

- HS 1501 - Pig Fat (Including Lard) and Poultry Fat, Other Than That of Heading 02.09 Or 15.03
- HS 1502 - Fats Of Bovine Animals, Sheep or Goats, Other Than Those Of Heading 15.03
- HS 1503 - Lard Stearin, Lard Oil, Oleostearin, Oleo-Oil and Tallow Oil - Not Emulsified, Mixed or Prepared

- HS 1504 - Fats and Oils (and Their Fractions) From Fish and Marine Mammals - Not Chemically Modified
- HS 1505 - Wool Grease and Derivatives - Not Chemically Modified
- HS 1506 - Other Animal Fats, Oils and Their Fractions NES (Whether or Not Refined) - Not Chemically Modified
- HS 1507 - Soya-Bean Oil and Its Fractions - Not Chemically Modified
- HS 1508 - Ground-Nut Oil and Its Fractions - Not Chemically Modified
- HS 1509 - Olive Oil and Its Fractions - Not Chemically Modified
- HS 1510 - Olive Oil and Its Fractions (Including Blends) NES - Whether or Not Refined, Not Chemically Modified
- HS 1511 - Palm Oil and Its Fractions - Not Chemically Modified
- HS 1512 - Sunflower-Seed, Safflower or Cotton Seed Oil and Their Fractions - Not Chemically Modified
- HS 1513 - Coconut, Palm-Kernel or Babassu Oil and Their Fractions - Not Chemically Modified
- HS 1514 - Rape (Canola), Colza or Mustard Oil and Their Fractions - Not Chemically Modified
- HS 1515 - Other Fixed Vegetable Fats and Oils And Their Fractions - Not Chemically Modified
- HS 1516 - Animal/Vegetable Fats or Oils and Their Fractions - Hydrogenated, Inter or Re-Esterified, Elaidinize
- HS 1517 - Margarine and Edible Mixtures/ Preparations of Animal/Vegetable Fats, Oils or Their Fractions
- HS 1518 - Vegetable/Animal Fats or Oils and Their Fractions - Boiled, Dehydrated, Blown, Chemically Modified
- HS 1519 - Industrial Monocarboxylic Fatty Acids, Acid Oils and Fatty Alcohols
- HS 1520 - Glycerol (Glycerine); Glycerol Waters, Lyes and Synthetic Glycerol
- HS 1521 - Vegetable Waxes (Excluding Triglycerides), Insect Waxes and Spermaceti
- HS 1522 - Degras; Residues from Treatment of Fatty Substances or Animal or Vegetable Waxes

All of the NAICS data were taken from Trade Data Online from Industry Canada:
<https://www.ic.gc.ca/app/scr/tdst/tdo/crtr.html?productType=NAICS&lang=eng> — accessed 16 April 2014.

For the NAICS data, the categories used were:

- NAICS 3112: Grain and Oilseed Milling
- NAICS 3113: Sugar and Confectionery Product Manufacturing
- NAICS 3114: Fruit and Vegetable Preserving and Specialty Food Manufacturing
- NAICS 3115: Dairy Product Manufacturing
- NAICS 3116: Meat Product Manufacturing
- NAICS 3118: Bakeries and Tortilla Manufacturing
- NAICS 3119: Other Food Manufacturing
- NAICS 3121: Beverage Manufacturing

The employment data are drawn from Statistics Canada, CANSIM Table 281-0023 — accessed 17 April 2014.