Ivey | Lawrence National Centre for Policy and Management

THE FUTURE OF CANADIAN MANUFACTURING: LEARNING FROM LEADING FIRMS

PROJECT PARTNERS

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WHILE THE OVERALL STORY HAS BEEN GLOOMY, SOME LEADING CANADIAN FIRMS CONTINUE TO SUCCEED – AND GROW – IN THE FACE OF TOUGH INTERNATIONAL COMPETITION.

Hard hit by the rising Canadian dollar and a deep and prolonged recession in the United States, the last decade was not kind to Canada. Real manufacturing output declined by 11 percent while the economy grew by 21 percent overall. Employment statistics reveal a similar trend. The number of manufacturing jobs declined by 23 percent over the decade, while economy-wide employment grew by 16 percent. The fact that similar declines in manufacturing output and employment were occurring in a number of other advanced economies was cold comfort to Canadian businesses and workers.

While the overall story has been gloomy, some leading Canadian firms continued to succeed—and grow—in the face of tough international competition. Located in different parts of the country and operating in diverse sectors, these Canadian firms expanded not only their output but also their employment and earnings. The first phase of the *Future of Canadian Manufacturing* project focuses on the sources of success for these leading firms and how we can translate those lessons into practical recommendations for action, both by other firms in the manufacturing sector and by Canadian governments.

Cover image courtesy of ShawCor Ltd. The advanced Subsea Test Facility, including the industry's largest and most advanced Simulated Service Vessel for the testing of offshore insulation coating was inaugurated in Toronto, Canada.

We've spent the last 15 years adjusting to the movement of the Canadian dollar and the new economy of innovation-based-manufacturing. It's important that we continue to be world class and export more beyond our borders.

BEN WHITNEY
President, Armo-Tool Ltd.

THE RESEARCH **PROBLEM**

A frustrating aspect of the decline of Canadian manufacturing is our poor understanding of the decline's underlying causes. Observers have traced the decline to various factors: competition from low-wage economies; the Canadian dollar's rising value; the prolonged US recession; and Canadians' general lack of innovation, investment and entrepreneurial spirit. Yet careful analyses of firm data over long periods have failed to isolate the most important causes. It became obvious to many that we needed a different approach to understand the root causes of the problem.

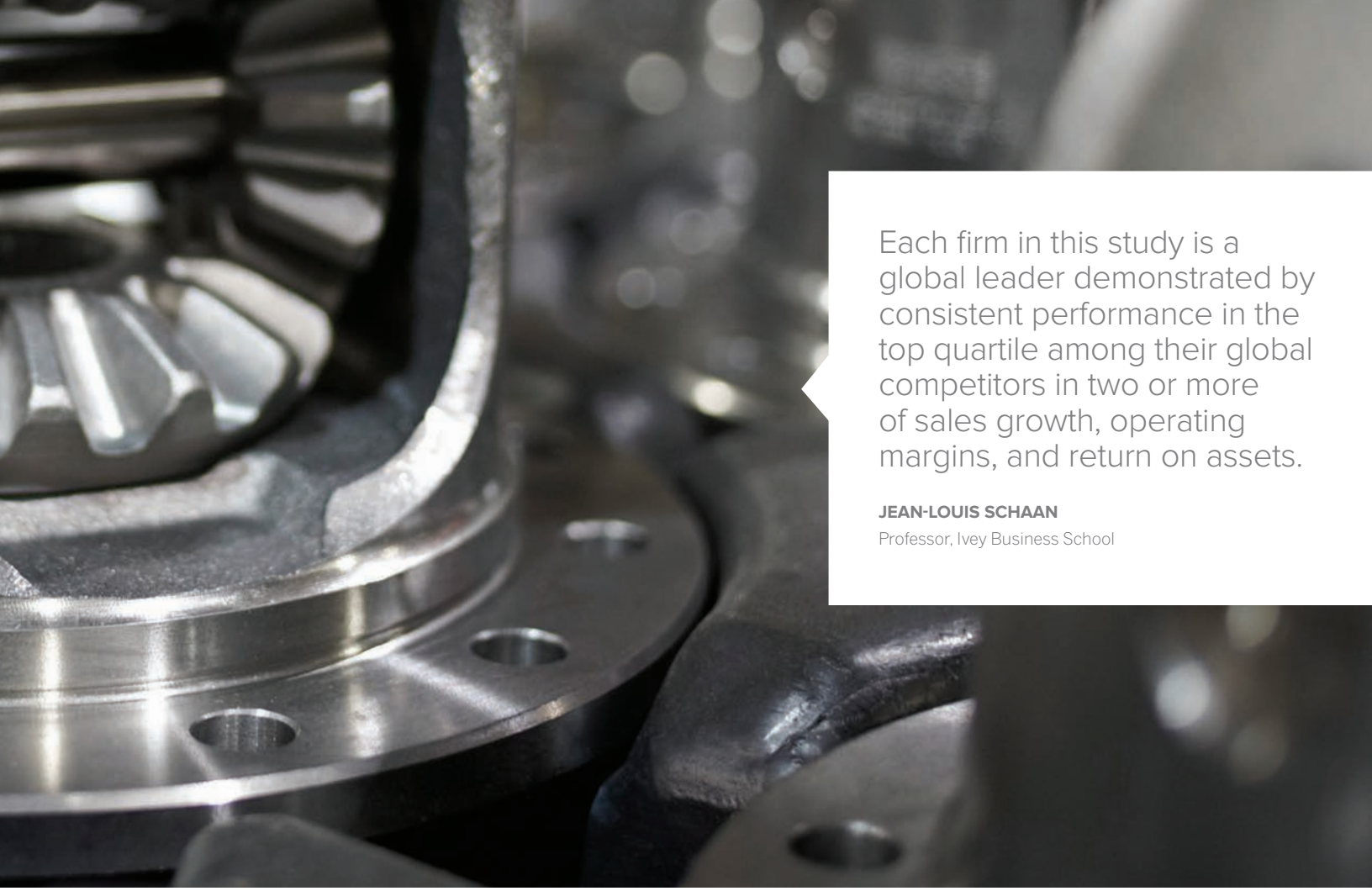
This need for a new approach provided the motivation for the first phase of the Lawrence Centre's project*: Learning from Leading Firms*.

Beginning with the insight that some Canadian firms were competing successfully in the international marketplace, we conducted case studies of leading Canadian firms to answer two questions:

a) What strategies underlie their success as manufacturers?
b) Looking across the jurisdictions in which these successful firms operate, what best-practice government policies and programs support manufacturing?

STRUCTURE OF THE PROJECT

The project was innovative in both its design and scope. We began by recruiting six partners: four private sector partners—the Canadian Council of Chief Executives, Canadian Imperial Bank of Commerce, Linamar Corporation and Martinrea International Inc.—and two public sector partners—Industry Canada and Ontario's Ministry of Economic Development, Trade and Employment.



> Each firm in this study is a global leader demonstrated by consistent performance in the top quartile among their global competitors in two or more of sales growth, operating margins, and return on assets.
>
> **JEAN-LOUIS SCHAAN**
> Professor, Ivey Business School

These partners not only supported the project financially but also met with researchers early in the process to help crystallize the research questions.

Throughout the project, the partners contributed data and qualitative information from their networks, recruited other leading firms to the study and assisted researchers in interpreting the results of the case studies.

The first phase culminated in a two-day meeting at Ivey's Spencer Leadership Centre. We invited principals from the leading firms we studied, researchers and leaders from industry and government to review our research results and translate them into practical recommendations for action by firms and governments.

The scope of the project differs substantially from traditional manufacturing studies. Rather than analyzing a large statistical data set to construct a detailed description of the representative Canadian manufacturing firm, we conducted in-depth case studies of nine leading firms in three groups: agri-food, auto parts and diversified manufacturing. The two criteria for inclusion were having 30 percent of sales outside of Canada and being leaders in their sector.

The leading agri-food firms studied were Maple Leaf Foods Inc., Richardson International and Saputo Inc. The auto parts firms studied were Linamar Corporation, Magna International Inc. and Martinrea International Inc. The diverse group of manufacturing firms studied were Canada Goose Inc., MEGA Brands Inc. and ShawCor Ltd.

RESEARCH **FINDINGS**

THE LEADING FIRMS WE SELECTED DIFFERED WIDELY IN TERMS OF THEIR PRODUCTS, CUSTOMERS AND MARKETS, BUT SHARED SOME IMPORTANT CHARACTERISTICS.

By design, all of the firms selected were exposed to international competition. Almost all the executives we interviewed argued that such exposure had a positive impact on their firms, pushing them to both improve the quality of their products and contain costs through both product and process innovation. Most firms used a decentralized management structure, whereby individual plant managers had considerable responsibility for both costs and revenues. These decentralized management structures were underpinned by an entrepreneurial culture at all levels of the firm.

Another common characteristic was a strong focus on customer needs. Firms aimed to respond quickly and flexibly to their customers. In some cases, the ability to respond effectively was the source of their competitive advantage. All the firms in our study aimed to manufacture products with best-in-class quality. Although executives agreed on the need for competitive costs, they argued that lower costs were no substitute for high quality.

All firms in the study focused on innovation as a critical competitive strategy. Some firms aimed for both product and process innovation, while others focused primarily on process innovation, leaving costly new product development to their competitors.

The firms used both greenfield investments and acquisitions to expand their geographic reach. For some, strategic acquisitions were used to gain access to new technologies. For others, acquisitions were used to gain access to new customers.

Finally, many of the firms devoted significant resources to developing skilled workers and managers, which was largely accomplished internally. At most firms, both workers and managers were rewarded financially when the firm was successful.

The executives we interviewed made numerous observations regarding best-practice public policies and programs. Topping the list was a competitive fiscal environment. Canada was identified as a best-practice jurisdiction because of its low corporate tax rates, research and development tax credits, accelerated capital cost allowance and duty-free imports of capital equipment. Canada received high marks for its high-quality labour force and its immigration system that has historically attracted skilled and industrious workers.

Many executives cited Mexico for its large portfolio of trade agreements that provide access to numerous growing markets. Mexico was also recognized as best in class in attracting foreign investment and helping firms get up and running when they arrived.

Germany was identified as having an educational system that is particularly effective in developing skilled workers. Exposing students to manufacturing, training and apprenticeship programs contributes to Germany's well-deserved reputation as a manufacturing powerhouse.

Finally, executives pointed to portions of the European Union for their efficient transportation systems and border crossings. Manufacturing firms can benefit substantially by being able to travel with relative ease across national borders within the trading bloc.

Leading food manufacturing companies are investing in new products, new systems and technologies, and in reorganizing their manufacturing footprint and their supply chains.

DAVID SPARLING
Professor, Ivey Business School

MEASURING SUCCESS IN MANUFACTURING

Critical to any endeavour are two elements: a clear goal and a way to measure progress. The lack of a clear measure of success unfortunately hampers progress on revitalizing Canadian manufacturing. While many discussions on Canadian manufacturing focus on the manufacturing sector's share of total Canadian output, such measures are problematic for two reasons. First, these measures are typically represented as ratios. The numerator of the output ratio (e.g., manufacturing GDP) is the variable of interest; yet the ratio may worsen or improve solely because of changes in the denominator (e.g., total GDP) that are beyond the control of initiatives aimed at increasing manufacturing output. A second, related reason is that increases in the output of non-manufacturing sectors can cause the manufacturing ratio to decline. Output increases in any sector should be viewed as positive for the economy as a whole. Increased output in non-manufacturing sectors is also positive for the manufacturing sector. Thus, simple measures based on the level of manufacturing output are superior to measures based on manufacturing's share of total output.

Measures based on the ratios of manufacturing employment to total employment are no better. These measures share the same shortcomings as the output ratios discussed above; however, they may be even more problematic. Policy makers often exhort manufacturers to improve efficiency and competitiveness, commonly accomplished by investing in labour-saving capital. Thus, measures of success that are based on employment shares may actually conflict with efforts to make firms more competitive.

This is not to suggest that increases in manufacturing employment cannot be a goal of efforts to revitalize Canadian manufacturing. However, such increases should result from expanding both the number and size of successful firms.

Two useful indicators of a healthy manufacturing sector are growth in the output of the manufacturing sector and growth in the number of successful firms. Identifying the latter continues to be hampered by the lack of data. We need more information on the number of successful manufacturing firms operating in Canada.

Firms in the manufacturing sector need to focus on improving their competitiveness in two key areas: innovation in the products they design and the processes used to make the products, and efficiency in terms of planning production lines and managing purchasing and labour costs. Both elements must be continuously improved in order to drive competitiveness.

LINDA HASENFRATZ

Chief Executive Officer, Linamar Corporation

RECOMMENDATIONS **FOR FIRMS**

IN NOVEMBER 2013, WE CONVENED WITH PROJECT PARTNERS AND EXECUTIVES FROM OUR LEADING FIRMS TO REVIEW THE RESEARCH FINDINGS AND TO DEVELOP RECOMMENDATIONS FOR FIRMS SEEKING TO BECOME SUCCESSFUL INTERNATIONAL COMPETITORS.

Conference participants focused on two key recommendations for immediate action by firms. Neither recommendation is completely new, and both recommendations are being piloted in selected areas. Participants felt strongly that if the recommendations are more broadly implemented, they will contribute to a successful Canadian manufacturing sector. Both recommendations can be implemented immediately by individual firms.

The first recommendation aims to develop the expertise needed to break into foreign markets. Firms should identify a seasoned executive with international experience to act as a mentor. Mentors can expand the range of possibilities firms will consider, challenge assumptions, help assess risk and, in some cases, open doors by leveraging their established networks. In addition to advising on business strategy, mentors can consolidate information on government programs and resources for new exporters and help firms to benchmark their performance against the international competition.

An example of a successful business mentorship program is Quebec's QG100 Network, which links senior members of the Quebec business community with firms looking to move their sales beyond Canada and the United States. Now in its fourth year, the program is supported by 19 founders drawn from Quebec's largest companies.

The second recommendation aims to ensure firms have the steady supply of the skilled workers they need to remain competitive. Firms should partner with educational institutions to ensure that students in high schools and community colleges are aware of the well-paying jobs available in manufacturing. One way to build awareness and attract students is to offer guided plant tours to students and their instructors. Along with awareness, the next generation of skilled workers needs to prepare for rewarding careers in manufacturing, which leads to the final step in this recommendation. Sharing machinery and equipment with educational partners helps students develop the specific skills they need to be immediately productive when they enter the manufacturing labour force.

Some Canadian manufacturers already enjoy effective partnerships with educational facilities. An excellent example is the Downsview Aerospace Cluster for Innovation and Research (DAIR), a collaboration between Bombardier Inc. and Centennial College in Downsview, Ontario.

Firms expressed concern about the future supply of skilled labour. They argued that more needs to be done to attract young people to manufacturing careers and to equip them with the technical and business skills needed to succeed.

PAUL BOOTHE
Director, Lawrence Centre, Ivey Business School

RECOMMENDATIONS **FOR GOVERNMENTS**

CONFERENCE PARTICIPANTS MADE SEVERAL RECOMMENDATIONS FOR MEDIUM TERM ACTION BY GOVERNMENTS. PARTICIPANTS LOOKED TO GOVERNMENTS TO INCREASE CANADA'S PORTFOLIO OF TRADE AGREEMENTS. NEW TRADE AGREEMENTS WILL SERVE BOTH TO WIDEN MARKET ACCESS AND TO EXPOSE CANADIAN FIRMS TO THE COMPETITIVE PRESSURE FACED BY INTERNATIONALLY SUCCESSFUL MANUFACTURERS.

Governments are also urged to continue to expedite border crossings and to collaborate to find solutions to transportation bottlenecks, especially in the Greater Toronto and Hamilton Area.

On immediate action, participants urged better collaboration among all three levels of government on investment attraction and implementation. Although Canada can claim some success in attracting manufacturing investments from abroad, our record is uneven and falls short of the successes in jurisdictions such as Mexico. Growing the Canadian manufacturing sector requires that all three levels of government make the future of Canadian manufacturing a shared priority. Canada needs well-coordinated and complementary efforts that put the best case forward to win global manufacturing mandates.

NEXT STEPS

Responsibility for succeeding in the face of tough international competition lies principally with Canadian manufacturers themselves. In this first phase of the study, we have taken lessons from leading Canadian manufacturers and translated them into practical recommendations for firms looking to move to the next level of success. Governments also have a role to play, and we propose some practical steps they can take to support the manufacturing sector.

Transforming the recommendations into action requires leadership and a commitment by both manufacturers and governments to raise Canada's game to meet the competition. Canadian manufacturers have excellent assets to work with, including a skilled labour force and a best-in-class fiscal environment. The leading firms participating in this study show us what is possible if we are ready to take practical action to compete and win in manufacturing.

There is room for all levels of government to tell a more powerful story around what Canada has to offer and to highlight some of the really successful companies who have gone global.

KAREN ELLIS
President, Federal Economic Development Agency for Southern Ontario

Canadian manufacturers were hammered by the worst global recession since the Great Depression and the recovery has been extremely weak. Going forward, we are seeing a recovery of global demand. The US economy is poised for faster growth – that's going to be positive for our manufacturers. Our challenge is to make maximum use of that opportunity as global growth picks up.

TIFF MACKLEM
Senior Deputy Governor, Bank of Canada

THE **RESEARCHERS**

PAUL BOOTHE
PROFESSOR, IVEY BUSINESS SCHOOL

Paul Boothe is Director of the Lawrence National Centre for Policy and Management. His work experience has included university research and teaching, independent consulting to Canadian and international organizations, and serving as a senior public servant in Canada's provincial and federal governments. At the provincial level, he served as Saskatchewan's Deputy Minister of Finance and Secretary to Treasury Board. At the federal level, his appointments included Associate Deputy Minister of Finance and G7 Deputy, Senior Associate Deputy Minister of Industry and, most recently, Deputy Minister of the Environment.

RICHARD DICERNI
ADJUNCT RESEARCH PROFESSOR
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Richard Dicerni held the position of Deputy Minister of Industry Canada from 2006 to 2012. He started his career with the federal government in 1969. In the 1970s and 1980s, he held executive positions in the federal public service, including Senior Assistant Deputy Minister, Health and Welfare and Deputy Secretary to the Cabinet. In 1992 he joined the Ontario government as Deputy Minister of Environment and Energy; in 1995, he assumed the position of Deputy Minister, Education, Post Secondary Education and Training.

In 1996, he was appointed President and CEO of the newly established Canadian Newspaper Association. He left this position in 1998 to become Senior Vice President at Ontario Power Generation (OPG) and led the company between 2003 and 2005. Prior to rejoining the Canadian government, he was a partner at Mercer Delta, a management consulting firm. He has served on the boards of Trent University, Credit Valley Hospital, Atomic Energy of Canada Ltd. (AECL) and the Public Policy Forum.

ANDREW DOONER
PRINCIPAL, NAVITAS STRATEGIC ADVISORS

Andrew Dooner is the principal consultant at Navitas Strategic Advisors, a boutique advisory firm focused on corporate strategy for medium and large sized enterprises in the public and private sector. Andrew has over 12 years of experience working in corporate strategy. He has held senior roles in strategy consulting at McKinsey & Company in Canada and Europe; as well as senior corporate strategy roles at a number of medium and large sized Canadian institutions including BMO Financial Group, Sears Canada, and the Pacific Carbon Trust (a crown sponsored investment fund in British Columbia).

JEAN-LOUIS SCHAAN
PROFESSOR, IVEY BUSINESS SCHOOL

Jean-Louis Schaan is the Donald F. Hunter Professor of International Business and the Faculty Director of the Ivey Executive Program (IEP). Previously, he was Director of the University of Ottawa's Executive MBA Program. Over the past 20 years, he has served on the boards of directors and advisory boards of several Canadian firms.

He teaches courses in strategy and international business and researches in the areas of strategic alliances, international business and project management. He holds a Ph.D. in strategic management from Ivey Business School and has won teaching awards at both Ivey Business School and the University of Ottawa.

DAVID SPARLING
PROFESSOR, IVEY BUSINESS SCHOOL

David Sparling is Professor of Operations Management and the Chair in Agri-Food Innovation and Regulation at the Ivey Business School. Previously, he was Associate Dean at the College of Management and Economics, University of Guelph and Executive Director of the Institute of Agri-Food Policy Innovation. He was also Senior Associate at the University of Melbourne.

He has been president of a farming company, an agri-business insurance company and a biotechnology start-up. He is actively involved in shaping food industry strategy and government policy in the areas of innovation and competitiveness.

DAVID WOOD
LECTURER, IVEY BUSINESS SCHOOL

David Wood teaches Operations Management at the Ivey Business School and is an Ivey alumnus of both the HBA (1997) and MBA (2012) programs. He has spent many years in industry as the Director of Sales & Marketing in the United States and then VP Manufacturing before becoming President for W. C. Wood Company, a global manufacturer of home appliances. He has extensive experience in international business, mergers and acquisitions, and currently sits on several corporate boards. He has also worked as a consultant to medium and large corporations in strategic planning and operational restructuring.

His interests include developing operational processes in a broad range of industries, applying strategy to logistics and supply chain management and establishing operations management as a fundamental tool for business excellence.

PARTICIPATING **FIRMS**

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PROJECT PARTNERS

CANADIAN COUNCIL of CHIEF EXECUTIVES · CIBC · Industry Canada Industrie Canada Canada · LINAMAR Power to Perform · MARTINREA · Ontario

We should be aiming to build successful firms. The larger number of successful firms we have, the greater the benefits for Canada and for Canadian workers.

PAUL BOOTHE
Director, Lawrence Centre, Ivey Business School

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The project was ably administered by the Lawrence Centre Research and Project Manager, Leslie Coates, with the assistance of the Lawrence Centre Coordinator, Penni Pring.

PAUL BOOTHE

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ABOUT THE LAWRENCE CENTRE

The Lawrence National Centre for Policy and Management aims to bridge the gap between business strategy and government policy by providing a forum for business and government to discuss policy development and implementation.

As a policy and management centre within a world-class business school, the Lawrence Centre is uniquely positioned to explore the areas of public policy that have the greatest impact on business. The Lawrence Centre educates future business leaders in public policy and government leaders in business strategy and conducts leading-edge research on major issues that involve business-government coordination.

The Centre was established in 2001 with a generous gift from Canadian businessman, Jack Lawrence, HBA '56, who was a strong proponent of business playing an active role in Canadian public policy.

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