

SCALING UP NIAGARA

Issues and Approaches to Improving SME Productivity and Growth

Policy Brief #29, November 2017

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The Niagara region is endowed with a geography providing natural advantages in agriculture, tourism, and transportation. Yet, employment has historically been dominated by the service sector - mainly in hospitality, tourism, business, education, and retail - and by a small number of manufacturing companies, most notably in auto manufacturing, and food processing (ICP 2014). Over the past few decades, shifts in the region's economy have resulted in the decimation of large-scale manufacturing and the emergence of small- and medium-sized enterprises (SMEs) as a key source of job creation and economic growth. This is not unique to Niagara. Thus, there is a growing body of research emphasizing the importance of business productivity and innovation for SMEs as key drivers of sustainable growth and job-creation in post-manufacturing economies like Niagara, and vital to the long-term economic growth and living standards of socioeconomically challenged regions across Canada. Concurrently, in efforts to improve business innovation and productivity of SMEs, business cluster strategy has come to the forefront of economic development discussions.

Brock University's Niagara Community Observatory and Niagara College's Productivity and Innovation Lab (Pi Lab) have partnered to undertake a research project investigating how Niagara SMEs can grow to become more productive and competitive, leading to a more prosperous region. Our research objective, thus, has two foci; first, to examine the keys to innovation and productivity for individual firms in socioeconomically challenged regions going through post-industrial restructuring, and second, to examine the role of industry clusters in encouraging and supporting the success of these firms to the point of creating a globally competitive industry hub. The proposed research on innovation and productivity focuses on the Canadian productivity gap, particularly in the context of SMEs.

The purpose of this policy brief is to introduce and define the problems facing Niagara's SMEs to help frame our research moving forward.¹

CONTEXT

It is no secret that Canadian businesses including small and medium enterprises (SMEs) have fallen behind their U.S. and Organization for Economic Co-operation and Development (OECD) counterparts in terms of productivity and competitiveness rankings (OECD, 2012). The cause can be partially attributed to four deficiencies in the private sector: inadequate use of information and communication technologies (ICT),

insufficient research and development (R&D), a high level of risk aversion, and low export activity (Chowdhury, 2016). The cumulative effect of all these is the lack of competitiveness among Canadian SMEs which in turn have prevented them from taking advantage of economies of scale to boost productivity. Studies reveal that 43 per cent of new jobs in Canada come from the five per cent

¹ The next phase of this research will consist of a multi-partnership involving the Niagara Workforce Planning Board, the Greater Niagara Chamber of Commerce, the South Niagara Chamber of Commerce, and Niagara Connects.

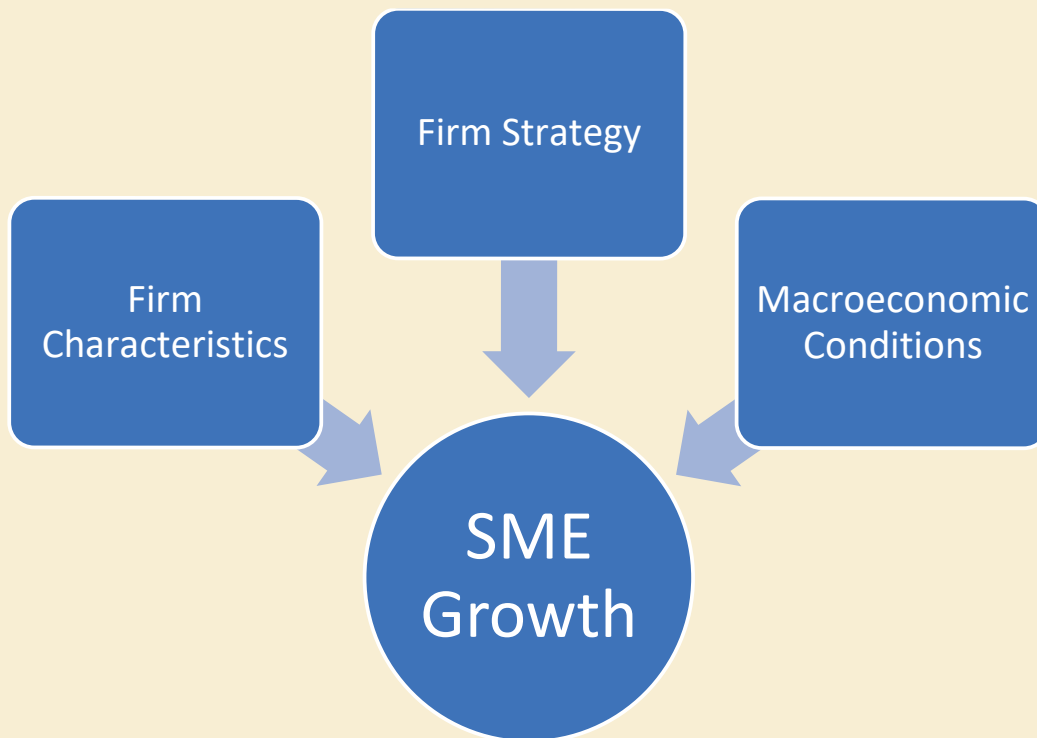
high-growth enterprises (HGE)². However, most SMEs plateau after five years on average, unlike their counterparts in the U.S., Sweden, and Israel which continue to accelerate (Deloitte, 2012).

SME growth is hampered by a multitude of internal factors such as firm characteristics and firm strategy (Mazzucato & Parris 2015) as well as external factors, namely macroeconomic conditions (Mateev and Anasyasov 2011, Beck et al 2005). Firm (or industry) characteristics such as size, age, industry concentration, and growth predict firm performance. For example, larger firms are more productive than SMEs and the former invest more on technology and innovation than the latter. Foreign ownership also matters, and it is often associated with more innovation and competitiveness. Industry concentration is considered

an advantage as the larger the agglomeration of an industry, the higher the performance of firms within. This is due to the linkage effect including technology spillover. Training, and investment on research and development (R&D) have a profound impact on firm growth. They are key to upgrading skill and knowledge. R&D transforms firm capacity to innovate. International trade, especially export, is another determinant of productivity. Export boosts competitiveness and overall performance. Import also enables firms to become more efficient and competitive by allowing access to cheaper inputs.

Macroeconomic conditions (external factors) have a strong bearing on firm performance as well. They refer to a range of factors that contribute to national competitiveness including economic growth, inflation,

Figure 1: A Holistic Framework for SME Growth



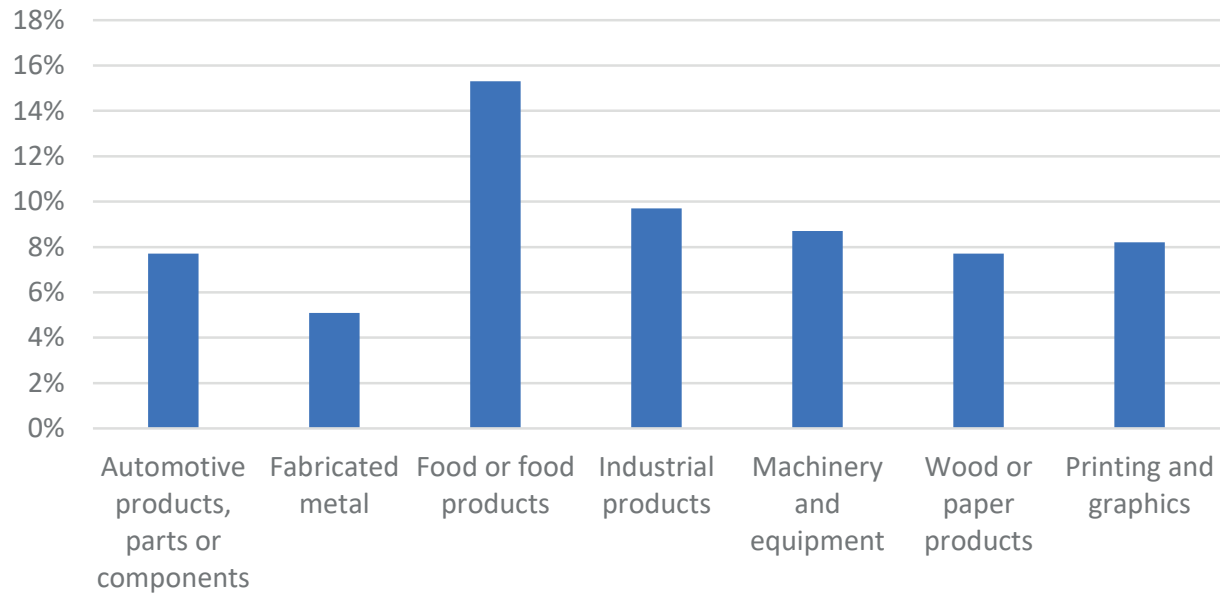
Source: Ipinnaiye, O., Dineen, D., & Lenihan, H. (2017)

² HGEs are businesses that contribute to employment gains above a certain threshold relative to the rest. There are different methods used to measure HGEs. For example, the OECD and EU use a threshold of 20 per cent growth per annum over a three-year period. The U.S. Bureau of Labor Statistics uses a different approach. A start-up small enterprise with fewer than 10 employees needs to grow by eight or more employees over a three-year period in order to be classified as a high-growth enterprise. Applying the latter approach, Innovation, Science and Economic Development Canada (2017) estimated that the number of high-growth enterprises in Canada was 11, 400, representing just 1.9 per cent of all SMEs in 2012.

credit, unemployment, etc. Industries that enjoy a conducive macroeconomic framework perform better. For example, the impact of lower taxes and less bureaucracy on firm performance is well-documented, although not conclusive. There are economies where

is profound. Second, data is more available for the manufacturing sector than any other sector in Niagara. Data made available by IPSOS and OECD are utilized. The IPSOS 2012 survey of Niagara manufacturing is by far the most detailed of all studies.

**Figure 2: Manufacturing Sectors in Niagara, 2012
(by Number of Establishments)**



Source: IPSOS Industry Needs Survey 2015

taxes are relatively high, but businesses are still thriving, e.g. Germany and many in the Scandinavian countries. This policy brief discusses issues around productivity and firm growth in Niagara. It asks two key questions: How are Niagara businesses performing? What factors affect the growth of Niagara businesses? We will look at firm growth from three angles: firm characteristics, firm strategy, and macroeconomic conditions. The focus will also be on the manufacturing sector for two reasons. First, the manufacturing sector is the driver of innovation and technological progress and hence key to prosperity for an economy. Its impact on other sectors through backward, forward, vertical, as well as horizontal linkages,

Unfortunately, the disaggregated data was unavailable. There is no separate study on SMEs in Niagara as far as we know. However, one can deduce that most of Niagara manufacturing businesses are SMEs (see below) and discussion on all Niagara manufacturing applies to SMEs in the region.

FIRM CHARACTERISTICS

Niagara businesses are predominantly SMEs by all measurements. The average firm workforce in Niagara manufacturing is about 24. Almost 60 per cent have less than 10 people and 76 per cent have less than 50. The number of manufacturing businesses that have

more than 100 employees is only 13 per cent. It is the same picture with sales. About 41 per cent had less than \$1 million in sales in 2012. Only 19 per cent reported \$5 million or above for the same year. A majority of them anticipated their sales and profitability to increase. About 68 per cent of the businesses surveyed in the IPSOS study projected their profitability to increase in the next three years with one-quarter of them projecting an increase of more than 10 per cent.

A look at sectoral composition indicates that Niagara manufacturing is diversified. Food or food products, industrial products, machinery and equipment are the top three by number of businesses. The three sectors make up 34 per cent of the manufacturing businesses in the region. They are closely followed by wood and paper products, automotive products, parts and components, as well as printing and graphics (Figure 2). While the manufacturing

sector is overall diverse, there are some clustering activities taking place in Niagara, namely in scenic and sightseeing, steel production, beverage manufacturing, gambling, and farming in order of significance by looking at the concentration (Niagara Region 2017).

Niagara firms are mostly local. Almost 90 per cent of the companies have their headquarters in Canada. In fact, most of them (85 per cent) have their headquarters in Niagara suggesting that they are typically local. About half of them target primarily the local (Niagara) market and the rest deal internationally.

STRATEGY OF NIAGARA BUSINESSES

The link between R&D and productivity is well-documented and it is obvious that Niagara businesses invest in their research capability. Almost 72 per cent of them invest in R&D. Close to 36 per cent of them

spend less than three per cent of their sales on R&D and 22 per cent spend between three and six per cent while 14 per cent spend more than six per cent. It is important to note that 22 per cent of businesses do not invest in R&D activities at all (IPSOS 2012). The figures are comparable to the Canadian average. For example, the percentage of firms in Canada that spend more than six per cent on R&D is 12 per cent. However, the level of spending is 41 per cent for OECD countries suggesting that Canadian firms



(including Niagara) underspend their compatriots in the OECD.

Almost three-quarters of Niagara firms have introduced new items, products, services, or capabilities in the past five years (KPMG 2015). We don't know whether those companies that have invested in R&D have introduced more products or services or new ideas. Also, 58 per cent of those businesses expect to introduce new items, products, or services in the coming three years. This is fewer than the share of firms that introduced these in the past three years. Overall, despite the low R&D investment and the many challenges they face in introducing new products, Niagara businesses are effective in introducing new products, services or ideas. For them the challenge is not in introducing products or services, it is rather in the marketing of them. They

have indicated that marketing, competition, customer demand, and manufacturing costs are more important challenges than product quality, technology, skills, prototype development, design, and process engineering, and also more important than resources, product approvals, regulatory impediments, and intellectual property.

One wonders whether the key challenge in innovation in Niagara is commercialization. This can explain the lukewarm interest that Niagara manufacturers showed in technical services such as factory transformation, lean manufacturing, quality assurance, automation, reverse engineering and equipment training as observed in the IPSOS study. It begs the question why Niagara businesses are not keen on the services that are considered vital to commercialization. These services also include marketing research, competitive analysis, segmentation analysis, supply-chain mapping, and marketing strategies.

Another determinant of business productivity is technology and human capital of firms. Niagara firms tend to be on the low-end when it comes to investment in their capability. Their own rating of their investment in training, R&D, machinery and equipment, facilities, as well as business profitability, is low. But 39 per cent expect their employment needs to increase and another 54 per cent expect it to remain the same. In terms of skilled manpower, although it is not a pressing issue, about 29 per cent reported that they faced immediate shortages in production workers, welders, machinists, operators, general labour, production support, IT and maintenance, sales, marketing and customer service, scientists, engineers, R&D, technicians, as well as management and administration.

A majority of the firms in the study expected growth in their business in the next three years. One would hope that the growth would come from increased productivity. This is crucial, especially in an economy where the working population is shrinking. But it is doubtful for Niagara businesses considering they don't invest much in R&D and training. For example, of the

196 businesses surveyed, 43 per cent didn't see any change in their training budget in the coming years. A good 27 per cent of the businesses expected their spending on training to increase by one to 10 per cent and another 11 per cent projected an increase by more than 10 per cent.

Most of those surveyed focused primarily on the local Niagara market, followed by Canada and the U.S. Like many Canadian businesses, Niagara manufacturers lack market diversification. Only 12 per cent marketed to the E.U. and only 11 per cent targeted Mexico (IPSOS 2012). Exposure to fast-growing economies is limited. For example, only nine per cent targeted China and a small seven per cent focused on East Europe and Russia. They are almost non-existent in other emerging markets. South

American countries which are considered of strategic importance to Canada were off the radar of Niagara businesses in this study. We see a similar picture on the supplier side. Niagara businesses source inputs mainly from the U.S. For example, only five per cent said that their primary suppliers were in China.



Businesses have been reorganizing their supply chain to seek cost and market advantages in the world. Many have capitalized on cost-saving opportunities such as labour and materials. Others have taken their production closer to markets where the middle class is growing in large numbers. Niagara manufacturers have not exploited any of that. It appears they face significant challenges in accessing export insurance, internal organization, and accessing credit and/or cost of financing in international expansion. The lack of working capital is a major challenge faced by firms in

all OECD countries and is consistent with the challenges faced by Niagara manufacturers such as export insurance, availability of credit insurance, and cost of financing. Paying attention to this becomes a matter of priority for Niagara businesses.

NIAGARA BUSINESS ENVIRONMENT

The prosperity of Niagara and its citizens can be sustained only if businesses in the region innovate and become more productive. Businesses need to develop a culture of innovation. Also, public policy has a role to play. It needs to create a conducive environment for businesses to continue to invest, innovate, and grow. As it stands, both businesses and the region are not positioned to do that.

This was evident in the findings of the IPSOS survey. Firms identified factors most crucial to their businesses, which included developing new products, cost and/or availability of raw materials, bringing new products or services to the market, compliance costs, global economic conditions, and attracting and retaining labour. Issues related to competition, price competitiveness, and the competitiveness of the business model of firms appear to also be key challenges for OECD manufacturers (KMPG 2015). Firms in Niagara realize being innovative, competitive,

and global is crucial to their business. When the question is about expansion, government incentives and cost become issues. Taxes (federal, provincial, and municipal), labour costs, and the supply and cost of energy are the most important issues identified in making the decision to expand business. It is good to keep in mind that Canada has a tax rate comparable to the OECD average. The average for OECD members is 24.1 per cent compared to 26 per cent for Canada (OECD 2012). These issues are getting worse over time - the federal, provincial, and municipal regulatory environment; federal, provincial, and municipal taxation; access to a stable cost-competitive supply of energy, Canada-US border processing and security, transportation infrastructure, and so on. This suggests that Niagara businesses do not perceive the region as being conducive for doing business. The negative perception is consistent at all levels of governance.

Businesses prioritized government actions in a few areas to address the issue: eliminating tariffs on production inputs, reducing consumption taxes, accelerating depreciation of machinery and equipment, improving tax treatment of capital gains, reducing capital taxes, reducing corporate income tax rates, and reducing payroll taxes, all mentioned in



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order of importance. The suggestion here is that the region needs to be more responsive to the needs of businesses.

CONCLUSION

A set of internal (firm characteristics and firm strategy) and external determinants (macroeconomic environment) has undermined the productivity and growth of Niagara businesses. Niagara businesses invest in R&D and they are able to introduce new products and services. However, they struggle to commercialize these new products or services. They also recognize the potential that comes with global markets. However, they are less able to navigate that market. Public policy is probably the most problematic for Niagara businesses, particularly the taxation and regulatory frameworks. Niagara businesses are convinced that taxes and the regulatory framework are undermining their businesses, current and future. Niagara cannot compete on the world stage unless it addresses the lag in productivity. Government at all levels, academia, and the private sector must take the reins and start implementing efforts to help Niagara businesses become strong competitors.

They need to ask the questions:

- **What is the state of innovation and productivity in Niagara?**
- **What has been done to support SME productivity and growth in the region?**
- **What has worked and what has not?**
- **What kind of approaches should be pursued?**
- **How should the different actors in the region coordinate their actions?**
- **How should actions at a regional level be coordinated with actions at the federal and provincial levels?**

A detailed and critical look at those questions will help stakeholders understand what the real issues are, and come up with a workable strategy to deal with them.³

³ In this regard, the researchers are planning to undertake a future study that will employ a mixed methods approach: The first element will consist of statistical analysis of SME start-ups, growth and/or closures, comparing Niagara to two similar regions in Southern Ontario over the past decade. In addition, the analysis will track key trends such as rate of economic growth; rate of sector-specific job creation and/or loss over time; and rate of attraction, retention, and/or loss of new SMEs to the respective regions. These trends in the three cases will be compared with provincial and national figures. Given that correlations should not be substituted for causality, the research will probe deeper into business innovation and productivity of SMEs in Niagara. The second dimension will thus consist of a combination of semi-structured interview questionnaires, focus group discussions and content analysis focusing on Niagara as the case study.

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