Firm Strategy, Competitiveness and Productivity: The Case of Canada[1]

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The strategies that firms pursue to achieve a competitive advantage—through investment, innovation and productivity improvements—influence potential growth (i.e., the rate at which an economy can grow without a buildup in inflationary pressures). In the aftermath of the Great Recession and against a number of transformative global trends, the medium-term competitiveness strategies that Canadian firms are following are of particular interest for the conduct of monetary policy. The findings of the Bank of Canada's 2013 *Firm Strategy Survey* suggest that, in a slow-growth environment amid strong competition and uncertainty regarding the timing of a strengthening in demand, Canadian firms have generally placed more emphasis on defensive competitiveness strategies, aimed at reducing cost structures or differentiating existing products to help retain customers, than on measures targeting expansion or longer-term competitiveness. Firms that are the most entrepreneurial or agile in the way in which they combine capital and labour report generally better innovation outcomes and have a more favourable view of their ability to improve their competitive position relative to global best practices.

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1. Introduction

The combination of forces influencing businesses over recent years has been profound. These forces include the Great Recession, higher levels of connectivity and mobility worldwide, the rise of disruptive innovations, more-complex global supply chains and the growing prominence of emerging economies. The Bank's regional offices conducted the *Firm Strategy Survey* (FSS) to gain insights into the adjustments that businesses are making against this backdrop and the factors affecting their strategies to be competitive over the coming three to five years, in order to inform the Bank's outlook for Canadian exports, investment and productivity growth.

Canada has trailed on a number of indicators that are known to increase productivity, including investment in information and communications technology and research and development.[2] Studies point increasingly toward organizational capital as a promising area to focus on to better understand the determinants of productivity. Organizational capital—the accumulation of firm-specific knowledge, along with software, technological know-how, and research and development—is part of a firm's intangible capital. It affects a firm's choices about desired levels of capital and labour, subject to its external environment (i.e., competition, market, industry, and cultural and institutional factors).

Recent studies have focused on investments in intangible capital that promote firm "agility" (i.e., the ability to surpass rivals by spotting opportunities early and adapting in real time to environmental and technological shifts) as a way to increase competitiveness in dynamic and uncertain environments.[3] While studies approach the issue of agility from various perspectives, common features include simultaneously implementing strategies to create demand through innovation; enhancing operating efficiency relative to competitors through the adoption of new technologies; and maximizing organizational learning through intense use of knowledge, information and networks. In other words, productivity-enhancing behaviours are integrated throughout various aspects of the organization. At the aggregate level, the more widespread such strategies and behaviours are across firms, the more favourable the prospects for growth in investment, productivity, exports and potential output.

2. The Survey

The theoretical framework underpinning the questionnaire is one in which the representative firm formulates strategy in order to maximize expected profit or value, subject to its information set and various constraints, including implied opportunity costs, over its planning horizon. This optimization is influenced by competitive conditions and the economic environment. It may lead a firm to rationally choose a more defensive cost-minimization strategy during certain periods, and a more aggressive strategy to create its own demand through innovation or speed to market during others.

The survey questions were divided across the key drivers of profitability at the firm level: external factors (i.e., competition, market structure, constraints); organizational capital (i.e., competitiveness objectives, organizational competencies, processes for strategy formulation, extent of adjustment to recent technology, nature of participation in export markets); innovation behaviour; and tangible and intangible investment strategy. The questions for each driver can be divided into two categories: action-based (relating to recent actions taken by the firm) and vision-based (questions that required firms to evaluate statements and choose the one that best described their strategic organizational objectives). The wording of questions was selected to align as closely as possible with concepts tested in the literature and to provide a link to macroeconomic variables of interest to the Bank.

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[2] The World Economic Forum's 2014–15 *Global Competitiveness Report*, for example, shows that Canada's competitiveness ranking slipped from 10th to 15th place over the past five years, reflecting deterioration in the areas of technological adoption, innovation, business sophistication and infrastructure (Schwab 2014).

[3] See, for example, McGrath (2013); Sherehiy, Karwowski and Layer (2007); and Zhang (2011).

Senior economics staff in the Bank's regional offices conducted the survey between September and December 2013, through face-to-face interviews with senior executives at 151 companies who were able to speak about the overall strategy of the firm. The survey used a quota-sampling framework that is broadly representative of the Canadian economy, providing a range of views across regions, sectors and firm size.[4]

3. The Results

The FSS first evaluated changes in the Canadian competitive landscape from various perspectives. On balance, firms selling solely to the Canadian market reported facing a greater number of direct competitors in the primary market for their main product (good or service) than five years before. Many saw greater foreign competition as driving the increase, as well as advances in mobility and connectivity, and changes in technology that have enabled the establishment of more Internet-based businesses and new product development. Changing consumer tastes have resulted in demand for more variety, providing scope for new competitors to enter their main market.

Firms with some exposure to export markets, in contrast, reported little change in the number of direct competitors relative to five years before. Those with the greatest export exposure (50 per cent or more of sales to international customers) reported a net decline in the number of direct competitors. Many exporters witnessed the exit or takeover of weaker competitors, as foreign demand fell sharply during the recession, or the merger or consolidation of other exporters.

Responses suggest that most surviving firms were focusing on rationalizing cost structures in the aftermath of the Great Recession. This was particularly true for exporters. Some saw their market become dominated by a few low-cost producers. While there were fewer traditional competitors in their primary market, some cited more competition in secondary markets as other businesses diversified in an effort to find untapped sources of demand. At a time when foreign demand was slow to recover, the combination of shifting global trade patterns, more-complex global supply chains and greater digital trade (e-commerce) raised the intensity of competition for exporters, even though the number of direct competitors did not increase. In addition to efforts to rationalize cost structures, firms reported investing in technology, new markets (particularly exporters) and in skills development. Investments in branding or marketing and after-sale service were used to promote customer loyalty and retention.

Nearly all firms (92 per cent) believe that there are barriers to entry that restrict new firms from entering their industry, either in the form of a structural barrier (scale of production, regulation, access to resources or access to financing) or a strategic barrier (related to knowledge or a strong brand name).

Against the backdrop of this competitive landscape, firms' top three strategies for competitive advantage[5] over the coming three to five years were to obtain a cost advantage (improve their cost structure or productivity); to achieve a differentiation advantage (improve customer loyalty by customizing offerings or differentiating their product); and to focus on skills (recruiting, retaining, training or creativity-building). Very few firms selected growth-related strategies such as innovation

[4] Specific sample targets by sector, region and firm size were selected in accordance with the quota sampling procedure used for the *Business Outlook Survey* (de Munnik, Illing and Dupuis 2013), with the exception of regulated utilities, which were excluded.

[5] The response categories offered to firms can be grouped into supply-side objectives (related to costs or labour) or demand-side objectives. The latter group includes strategies related to the elasticity of demand (to target a specific segment of the market, or niche, that is not currently being met by competitors, or by differentiating one's product to attract customers from competitors in existing markets), as well as strategies to create one's own demand through completely new or notably better products, or to get new products to market more quickly than rivals.

advantage (leading the market by introducing completely new or notably better products) or the advantage of geographic presence (being present in more geographic markets) as “most relevant” for their market share over the next three to five years.

Firms reported that they are targeting investment mainly at streamlining production, at repairing or replacing existing equipment or facilities, or at differentiating current product offerings. Few reported that they are targeting investment at expanding longer-term capacity to serve either domestic or international markets. Exporters generally reported shorter desired payback periods on investment in machinery and equipment than firms focusing on the domestic market, suggesting a shorter-term focus for investment plans in the current environment.

When choosing among statements related to their organization’s way of working, the statements that are most closely associated with innovation, adoption of new technology or organizational learning were generally not the most prevalent. For instance, while many firms considered innovation to be an ongoing and central part of their strategic plan, the majority viewed their organizational capabilities as most closely geared toward maintaining and extending existing competitive advantages rather than generating new advantages. A considerable share of firms reported that their business had changed only “to some extent” in response to advances in information technology. Regarding their use of information and organizational learning, firms described organizational structures and processes as generally set up to favour analysis over experimentation. Few firms indicated that they are developing capital budgets in short cycles or on a rolling basis. Many firms have introduced new metrics related to monitoring efficiency and quality, employee/management performance, or customer experience over the previous three years, yet considerably fewer have added ways to monitor competitors’ practices or consider competitors’ actions to have a strong impact on their process for formulating strategy.

Aggregating signals of organizational agility

To construct an aggregate measure of agility using signals from the survey, firms were scored on the number of responses that correspond most closely to key features of a representative agile firm based on the theoretical and empirical literature.[6] Points were allocated to response categories for which, if selected by the firm from a series of alternatives, the balance of probabilities would indicate a greater degree of organizational agility. The distributions of scores across sectors, firm size and other firm characteristics were also examined and statistical tests conducted to determine whether firms in the top score quartile had different responses than those in the bottom quartile to other survey questions related to firm performance. Survey indicators of firm performance are defined as (i) the firm’s characterization of sales growth over the past three years; (ii) whether or not goods, service or process innovations were introduced, and the firm’s estimate of the sales gain resulting from these innovations; and (iii) the firm’s self-assessment of its recent and expected future productivity performance relative to the domestic and global competition.

Three interesting features emerge from the analysis. First, as expected, the distribution of organizational agility scores shows considerable dispersion across firms, with a relatively thin right tail of firms exhibiting the most agile features. Sectoral distributions vary but are generally overlapping, confirming the view that agility features are not sector-specific; firms in any sector can demonstrate high or low agility.

[6] Scoring was used as a tool to facilitate analysis of a large collection of observations on a relatively small sample of firms. Response options across 22 questions were evaluated on the basis of the strength of the signal for agility. The questions selected were those that provided information on investments in innovation and other intangible assets, as well as those pertaining to organizational cultures valuing innovation, flexibility and learning. A simple two-value scoring system of one and two points was used in cases for which a specific behaviour would be consistent with situation-specific agility and unconstrained agility, respectively. No points were given if the response did not offer sufficient information to assess agility. Fifty-five response categories were identified, with a maximum achievable score of 100.

Second, as would be expected, relative to those in the bottom quartile, firms in the top quartile of agility scores were more likely to have innovated over the previous three years (introduced new or significantly improved goods, services or processes) and to report a higher percentage increase in sales because of those innovations.[7] Firms in the top quartile also had more favourable expectations regarding their forward-looking productivity performance relative to their domestic and global competition over the coming three years, and were generally more aware of global best practices (only 20 per cent of firms in the top agility score quartile could not provide a view on the expected evolution of their productivity relative to that of the global competition, compared with 56 per cent of firms in the bottom quartile).

Studies suggest that agile firms are able to sustain above-average growth over extended periods. However, the most and least agile firms in the sample reported similar profiles of sales growth over the previous three years (in terms of the share reporting strong, moderate, weak or negative growth). This may reflect the economic environment of the period, or that a greater degree of agility than demonstrated by the top quartile of Canadian firms is required to generate sustained, strong growth. Worley and Lawler (2010), for instance, argue that "the 'new normal' requires organizations to have an amazing amount of agility just to survive, let alone thrive."

Third, differences in agility scores along various firm characteristics provide interesting insights. The literature suggests that small and medium-sized firms have more scope for agile behaviour than larger firms owing to their greater flexibility and entrepreneurial orientation, but larger firms may have more access to resources needed to launch new products or expand geographically. In the survey, mean agility scores were found to rise with firm size. Agility scores among smaller firms may be lower than would otherwise be the case given the slow recovery in firm creation since the recession, which has resulted in limited entry of new start-ups with high entrepreneurial orientation.

The literature also suggests that exporting firms are relatively more capital-intensive, knowledge-intensive, information-intensive and productive than non-exporters. Outside of having initially entered an export market, however, exporting firms did not have statistically different organizational agility scores than domestic firms.[8] This result suggests two influences. First, domestic market conditions have evolved in such a way that, with increased import competition and technological advances, domestically oriented firms have faced incentives to invest in agility to compete. Second, amid a prolonged period of uncertainty regarding the nature and timing of a strengthening in global demand in the aftermath of the recession, incentives for many exporters have favoured strengthening their ability to absorb the demand shock and survive, rather than investing in their agility.[9]

4. Conclusion and macroeconomic implications

Overall, the FSS results suggest that the near-term growth expectations of Canadian firms are modest. Facing greater competitive pressures in both domestic and export markets, firms have been planning largely defensive uses for their capital budgets, aimed at further reductions in their cost structure or at ways to differentiate their product offerings. Firms following strategies to reduce their cost structure generally expect to improve their productivity performance relative to their domestic and global competitors over the next three years. Others were focusing on enhancing customer loyalty to obtain a

[7] This result was robust to a range of alternative scoring methodologies.

[8] This is based on a test of the distributions of agility scores between exporters and domestic firms after the removal of the points given to the nature and speed of the initial entry into export markets and preferences for continuity of participation in the face of changes in demand. According to the Wilcoxon rank-sum test result, the null of no difference between distributions is not rejected at the 20 per cent level.

[9] Sull (2009), for example, describes how companies can focus on agility to spot and exploit changes in the market in certain conditions or stages of their life cycle. During others, they can rely on strengthening their resilience to withstand market shifts, notably during shocks and when strategic or structural barriers to entry are perceived to be sufficient to provide some protection from competition.

competitive advantage, through customization or differentiation of their product offerings (while acknowledging that these efforts can raise costs and lead them to forgo some productivity gains). All else being equal, these strategies should help support exports and domestic output over the short term.

A key issue for the macroeconomic outlook is determining when Canadian firms' confidence will rise to the point of shifting focus toward investments that would push the production possibility frontier outward. One can envisage two possible scenarios: (i) global growth begins to gain momentum, or (ii) a slow pace of growth persists.

In the first scenario, amid less uncertainty and improving demand, the strategic orientation of firms would be expected to shift, in aggregate, from a focus on fine-tuning existing strengths toward more entrepreneurial strategies to seek out new growth opportunities and to expand longer-term capacity to serve domestic and export markets. The FSS finds that firms that have invested the most in organizational agility generally report better innovation outcomes. At the aggregate level, investing in agility-enhancing activities can trigger a process of innovative supply that creates its own demand.

The second scenario—that a slow pace of growth will persist and uncertainty will lead to further delays in investment—may lead firms to continue to rely on more-defensive strategies, which could hold back the rotation in Canadian aggregate demand toward exports and investment. The fact that most firms perceive some or significant barriers to entry in their industry suggests that imperatives for innovation and long-term productivity enhancements may not appear that pressing. A prolonged period in which firms postpone investment and follow strategies for incremental reductions in costs that are not accompanied by investment in new technology would undermine the longer-term competitive advantages of the Canadian business sector, particularly if net firm creation remains slow to recover. A sustained failure to invest would imply a lower rate of potential output growth.

Under either scenario, the emergence of new and non-traditional competitors, more demanding consumers, the growing volume of big data, and further advances in information and communications technology are expected to continue to challenge business models over the coming years. As firms seek ways to respond to evolving global forces and maintain or improve their market share, the nature of the agility and strategic decisions of Canadian firms will continue to be an important area of study.

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