Dinner and Keynote

"Canada and Business Innovation: What would we wish for?"

Céline Bak
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Bak placed her remarks about innovation in the context of supply-side and demand-side economics. More specifically, she suggested much of the discussion surrounding this topic in the medium term would form a highly critical examination of the emergence of oligopolistic economics in the United States, including an ongoing review of the causes of wealth concentration as outlined by Thomas Piketty's celebrated book, *Capital in the Twenty-First Century*.

She noted that the subject is also coming to the fore in political discourse, which has been highlighted in comments by American Democratic Presidential nomination contender Bernie Saunders, as well as journalistic analyses in outlets such as the *New Yorker*, *The Economist*, and various Canadian publications. In each case, she noted, observers are wondering about what other kinds of economic progress could be made in the absence of this form of capitalism.

"In the US the concentration narrative goes like this: one of the major causes is concentration of markets," she said. "Sector-based economic analysis enables us to detect a new and disturbing degree of corporate concentration since 1997." More specifically, she cited revenues in fragmented industries dropping from 72% of the total in 1997 to 58% in 2012; meanwhile in concentrated industries revenues have risen from

24% to 33%. Bak observed the tremendous variety of industries characterized by markets where fewer than 10% of firms control two-thirds of sales, which includes dog food, batteries, coffins, and pharmacies.

She pointed to other factors responsible for this major shift, such as the role of lobbying, intellectual property and associated litigation, and increasing corporate ownership defined by institutional shareholders. Nor are these trends an exclusively American phenomenon, Bak argued; if anything they are more pronounced in Canada. Among the most prominent examples is a huge jump in the value of Canada's oil and gas exports along with a significant decline in the number of firms operating in this sector. The same pattern has been repeated across Canada's entire export economy, which has recorded the greatest fall in share of global market exports among the world's 24 major economies in key sectors such as automotive, aerospace, and clean technologies.

"We're talking about the world's biggest loser here," she said, noting that the value of these losses were on the order of half of what the US has spent on the Iraq and Afghanistan wars.

The prospect of reversing this concentration and its effects has therefore become part of a new political economic dialogue, Bak suggested. "We owe it to ourselves to stop and reflect on this. It is the opportunity for a New Deal for innovation in Canada."

People working within her field of specialty — environmental technologies dedicated to clean air and water — have been anticipating just such an opportunity by tracking the performance of this sector over time. "Our goal throughout this research was to earn a place at the policy table for innovation-based firms working within our highly concentrated Canadian economy whose dominant firms have very deep pockets to develop policy proposals and to convey their perspective as and when it is relevant to the government's agenda."

She regarded this information as vital to putting clean technologies in perspective with the losses endured by Canada's export economy over the past decade. "We did lose ground in the global race, yet by any measure clean technology is a great Canadian innovation success story, especially when it comes to jobs and the contribution to society." The database mounted by Bak contains some 800 firms that employ around 50,000 people working in innovative manufacturing enterprises that are engaged in

international distribution. Some 9,000 of these jobs were added just in 2013, at a time when other branches of the economy were struggling to hold the line on job losses.

She also credited this growth to supply-side programs designed to promote clean technology industries, including public sector investments in institutions such as universities and the National Research Council. "It's ironic because both health-related companies and clean-technology companies make significant contributions to public policy and therefore represent a legitimate opportunity for demand-side policies driven by these public policy holders.

Bak advocated formal "nudging" of government to take stock of these developments and embrace policy goals that take advantage of the best available technologies. "This is akin to applying the gold standard concept in life science to climate change and environmental protection," she explained. Such demand-side policies would remove many of the barriers to participation that face smaller firms in such high priority areas as climate change, in much the same way that government procurement efforts can augment the capabilities of innovative firms in the health care sector.

"I submit that mitigating and adapting to climate change will require changes to existing systems to protect the air and water and land," she said. These changes will also require funds to improve the international competitiveness of the industries responsible for these systems. She offered these recommendations for doing just that, which could be applied to any innovation-based industry:

• implementing regulations that account for innovations such as best available technology
• implementing a substantial price on carbon
• legislating a public procurement framework that infrastructure investment must include procurement from innovation-based firms
• levelling the fiscal playing field with policy that takes full account of commitments such as the elimination of fossil-fuel subsidies

These demand-side measures would also include providing support to other essential participants in the implementation of these innovation technologies, such as municipal governments, which are not in a position to assume the risk that accompanies these kinds of investments. Similarly, the capacity for new investments in research and development could be expanded by building connections between researchers and the private sector. Canadians could also provide direct support by purchasing government-sponsored "green bonds" that would be part of low-carbon economy fund, which would be based on clean innovation investment criteria.

"As our commodity-led industries are buffeted by price volatility, we need innovation-based loans to make competitive exports from all sectors," she said. She cited Mark Carney's comment that we are in a long-term commodities super cycle, which Bak points to as the jumping-off point for rent-seeking economic policies based on nothing more than commodity extraction and sales. "I believe we can do more than ride short-term commodity cycles," she said, referring to a need to confront the impact of economic concentration in ways that will allow innovative firms to play a much greater role in the economy. "Some of them will grow into large firms and then we will be on an upward cycle of innovation and diversification, diversification and innovation."

When pressed by a question from the audience for more detail on precisely how to implement these demand-side policy changes, Bak responded that this would take the form of an altered political narrative, which she sees signs of emerging. "We need to be ready when that moment comes," she insisted.

A representative of a mining research group asked Bak where he should go for ideas and help on the introduction of clean technology in this sector. She acknowledged that there was no formal industry association that could be approached in this way, but she is attempting to assemble the elements of such as network and offered to put the individual in touch with people working in various parts of the industry.

Asked for a definition of clean technology, Bak referred to an introduction to the topic found on her organization's Web site, http://www.analytica-advisors.com. "We defined it seven years ago to include companies that have intellectual property that addresses something to do with energy, air, water, and the earth." This covers the fields of industrial energy efficiency, technologies in recycling, recovery, and remediation, and even some agricultural companies. "Using that taxonomy, we identified over 800 firms and that number is very interesting, because in Canada we have 700 aerospace firms; that's an industry that's been around about three times longer. And we have 450 automotive firms, an industry that's been around about five times longer. So in terms of the number of firms I'm confident that definition will hold water and we're already starting to see mergers and acquisitions with a number of firms that are coming in."

Bak noted that she is regularly advised to add service companies to this list, but she argued that Analytica Advisors has filled a void left by Statistics Canada and that is their first priority. If the government agency began to gather this information, she would then be inclined to broaden her organization's perspective.

Another questioner suggested that given the global impact of problems such as climate change Canada might find itself under pressure to make the technology owned by such firms freely available to the world, so that the environmental role of these firms could be profound even though their economic role would be very limited. Bak insisted that

technologies are not disembodied, but instead have to be created and developed within the context of a firm. In principle one could make clean technologies freely available, but she concluded that it would not necessarily have much practical effect. Moreover, much of what will be carried out in this field will take the form of services rather than goods, since one of the key aspects of bringing these technologies to market will be the financing and regulation that surround them. "We need a CMHC for municipalities to buy into this, and we need to be bold about saying things like that, when we start having this discussion about economic concentration and the need to use regulation to force innovation and smaller firms into big concentrated industries. So think of policies that you're advocating, if you think they're good for innovation, think of them as being really good for middle class jobs, which we all know is what this government wants."

Another question focused on small business innovation (SBI) research and how to promote it. Bak recalled once asking in an innovation discussion if anybody had ever done a study that gives us a perspective of GDP consequences of small business procurement acts and SBI. This information is not being systematically collected, even though it would likely provide a good rationale for government to take an equity position in the adoption of innovative technologies. "The shareholders of innovation-based firms are not the same ones that own the companies that control the world's chemical industries," she said. "It's about economic diversification and redistribution — or as I like to call it, "freedistribution" — of wealth."

Bak added that this observation is the result of her own career, which has featured an extensive benchmarking of the role of these innovative firms, which has convinced her of their potential to usher in positive economic change. "I have this naive idea that if we actually had evidence of the impact of those policies, we would act on them."

A member of the audience pointed out that this information about SBIR does exist, but specific methodologies have resulted in sometimes conflicting results. "I think it's really important that we stop asking about the impact on GDP," insisted this member of the audience. "It's not a measurement, it's an estimation and it's fraught with assumptions; it's not really the right way to pose the question. We have to be looking at the impact of these programs by different dimensions of firm performance and firm capability."

A final question asked about the source of resistance to the adoption of innovation, to which Bak pointed to Peter Drucker's celebrated observation: "Culture eats strategy for breakfast." She concluded that these innovative firms represent a major shift in culture, which sometimes wreaks havoc on any traditional approach to economic policy.