

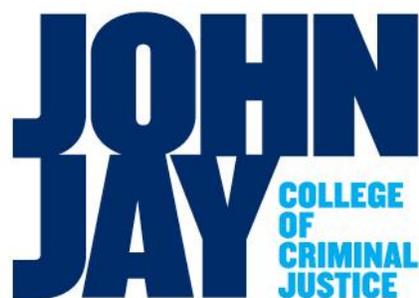
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Declining in the Periphery: Canada's Role as a Supplier of Primary Commodities

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There is currently a scramble for natural resources on a world scale. Emerging markets, with China leading the way, need resources to fuel their growing industrial sectors, Russia is trying to reassert itself on the world scene, and the U.S. and Europe try to maintain their dominant position. Large mining conglomerates are vying for a piece of the action, consolidating their holdings and expanding in new areas. International financial markets, flush with money in this era of financialization, add a speculative aspect to the situation.

With vast reservoirs of natural resources, Canada is in a relatively favourable position compared to countries that rely largely on imports for primary materials, such as Japan. Canada could use its natural resource assets as a base from which to build a thriving and diversified economy. The alternative, of course, is simply to become a resource supplier to dominant economies or large mining conglomerates jockeying for position in world markets. At first blush, this is tempting, given the price some of these resources command these days; but specializing in raw material production and export poses serious problems for the country's future development. Yet, this seems to be the path along which Canada is travelling.

Simply "letting things go" – *laissez faire* – along the current lines of globalization, is likely to produce this outcome. Canada's resources have long been targeted by its U.S. neighbour,

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for example, in the need of nickel for its tanks (Dufour 2010). The recent resource scramble has added a few players to the picture. Indeed, the takeover of large swathes of mining operations by foreign companies in recent years has made headlines, stoking a recurrent debate about foreign ownership. While the national affiliation of the mining companies operating in Canada has importance, particularly given that a majority of the industry is now foreign owned, even more crucial is the general shift of the country's position in the world order. In many respects, Canada was historically a junior partner in empire, one that had progressed in status through the last century as its industry grew and diversified. But currently under a range of international pressures, one of which is foreign ownership, Canada is now regressing to a simple role of commodity supplier.

Such a realization should not lead to an exhortation for competitiveness. The idea is not to climb back up the ladder of empire, to reclaim a position as minor hegemon. Rather, the goal is for the country to emancipate itself from the vortex of empire and to participate in the global economy on its own terms, while fostering a dynamic, innovative and sustainable economic environment at home. This may imply delinking Canada from the neo-liberal order to some extent, say, by revisiting policies on free trade and foreign investment; it will certainly involve devising an active industrial policy, with due consideration to the exploitation, transformation and end use of the country's natural resources.

In this chapter, I suggest some ways Canada's resources could be integrated into an active industrial policy. First, I outline how Canada is experiencing a process of deindustrialisation and movement back to a reliance on primary commodity production. Second, I analyse some of the consequences of this process for the country. I then go into policy options, before concluding.

Recent Deindustrialisation

For a while in the latter part of the twentieth century, it looked like Canada might have escaped its earlier position as a staples-based economy, i.e. an economy heavily dependent on natural resource production and export. As Stanford (2008) documents, manufacturing developed quantitatively and qualitatively at least from the end of the 1960s onward, experiencing important productivity and technological growth. In the process, it outperformed many other developed capitalist countries and, by the end of the century, the Canadian manufacturing sector had a larger share of employment and total production than the U.S. or the U.K. While much of the sector remained foreign-owned and a large share of production was enmeshed with that of its neighbour, this was still progress for Canadian manufacturing. These developments led some, such as Paul Kellogg (2003), to revisit the argument, often made in Canadian political economy, that Canada was stuck in a peripheral role in the world system, condemned to serve as a source of raw materials for more powerful nations such as the U.K., its former colonial overlord, and the U.S., its hegemonic neighbour.

No sooner had the thesis of staples dependency started to come under serious revisionist challenge, however, that staples made a come-back. Over the last ten years, a process of deindustrialisation has taken place that has brought Canada down on the value-added scale. This process has both quantitative components, such as a decrease in size and scope of manufacturing, and qualitative aspects, notably a shift towards less domestic transformation of raw materials and concomitant research and development.

The extent of manufacturing decline was enormous for Canada: 400,000 jobs lost between 2002 and 2008, about one sixth of the workforce, even before the impacts of the global financial crisis were fully felt. The share of manufacturing in employment decreased by one third and real manufacturing output fell by 10 percent between 2005 and 2008. Further, the share of manufacturing in trade fell markedly. Looking at the share of staples and manufacturing in merchandise exports, we can see that staple exports steadily lost ground after the mid-1970s, while manufacturing exports correspondingly gained some (Figure 1).¹ Stanford (2008) shows this trend that started a few years earlier, in the mid-1960s, after the auto pact was signed between Canada and the United States. Manufacturing caught up with staples at the beginning of the 1990s and, by the end of the decade, its export share was about 10 percentage points above that of staples. However, by only about a decade later, the proportions had gone back to where they were in the early 1970s.

(Insert Figure 1 about here)

On the staples side, the reversal is mainly a result of increases in the energy sector (oil and natural gas) and increases in primary industrial goods and materials (e.g., ores, metals and alloys, chemicals and plastics). From less than 8 percent of exports in 1998, energy accounted for over 25 percent of exports ten years later, and primary industrial materials went from 18 percent to 23 percent during the same period. Meanwhile, forestry and agriculture continued their long-term decline, though the share of agriculture did increase slightly during the last two or

¹ Staples here are defined as goods with little or no processing, including raw materials, such as ore and crude oil, as

three years. In other words, the staples revival has been led by energy exports, of which crude petroleum and natural gas now account for about three quarters of exports, along with industrial goods with little processing. On the manufacturing side, the export shares of machinery and equipment, as well as automotive parts, have decreased markedly in the last decade. Both export shares peaked at 26 percent at the end of the twentieth century, only to go down to lows of 12 percent for auto parts and 19 percent for machinery and equipment a decade later (though machinery and equipment recovered a bit in 2009, to 22 percent).

The ratio of manufacturing exports to manufacturing imports followed a similar pattern. In the early 1970s, Canada had a trade deficit of about 40 percent in manufacturing. This deficit progressively shrunk and, by the end of the 1990s, the country was exporting almost as much in manufactures as it was importing. Once again, the trend then reversed and, ten years later, the country found itself pretty much where it was four decades earlier. Specifically for machinery and equipment, the import of which is sometimes viewed as the hallmark of a peripheral nation, the ratio of exports to imports also went up for the last three decades of the twentieth century, in an even more dramatic fashion than overall manufacturing. From an export level of less than 50 percent of imports in the early 1970s, the ratio surpassed 90 percent by 2001. Then it regressed to 74.5 percent by 2009.

These general trends have repercussions on the mining sector. If Canadian manufacturing is waning away, less minerals production is likely to be needed. This is certainly true for nickel. The Canadian domestic use of nickel has always been only a small fraction of total production in Canada (typically less than 8 percent). Nevertheless, the portion used domestically increased in

well as refined or processed raw materials, such as alloys or chemicals and fertilizers.

the 1990s. After hovering between 7,000 and 10,500 tonnes in the previous decade, it was consistently above 10,000 tonnes after 1991, peaking at 14,861 tonnes used in the year 2000. Domestic use since then has retreated, surpassing 8,000 tonnes only once after 2002 (8,701 tonnes in 2005).²

The picture is not so straightforward for other minerals, such as iron and copper. After a lull of a few years at the beginning of the 1990s, domestic copper use increased until 2006. It then dropped by about a third in 2007 and 2008, but this is too short a time period to know the degree of permanence of the decrease.³

Statistics for steel – the main outlet of iron ore – indicate a similar increase from the second half of the 1990s to 2006.⁴ It is notable, however, that domestic shipments of steel have been decreasing since 1999. That is to say, while the Canadian demand for steel has been increasing, a lower amount has been coming from domestic sources, the difference being imported, mostly from the U.S.. Even before they started to decrease in 1999, however, domestic shipments were not keeping pace with Canadian demand. The share of imports in total consumption rose from about 20 percent at the end of the 1980s to about 40 percent a decade later, reaching 52.7 percent by 2006.

The decrease in the importance of domestic steel shipments illustrates the shift from refining for all three metals. For example, Vale decided to close down its nickel refining operation in Thompson, Manitoba and Xstrata closed down its copper and zinc refinery in Timmins, Ontario in 2010. Steel mills have also been gradually closing down around the country,

² Data obtained from Sutherland (1995) and NRC (2010). The most recent data available for nickel use is from 2007, because Natural Resources Canada has since discontinued its survey.

³ Data on copper consumption obtained from Coulas (2009) and Bokovay (1995).

notably in Sidney, Nova Scotia in 2000, in Sorel, Québec in 2004 (the last stainless steel plant in the country) and in Hamilton, Ontario in 2010. The latter had been in difficulty for some time. US Steel bought the plant along with the Lake Erie plant in 2007 from Stelco, after Stelco declared bankruptcy. US Steel then temporarily shut down most of the operations at both plants in 2008 and 2009, prefacing the subsequent permanent closure of the Hamilton plant. A German company has purchased some of the Hamilton operation from US Steel, but future levels of production remain to be determined (Arnoid 2010). Thus, not only is manufacturing waning in Canada, the country is even regressing in the transformation of the raw materials coming from its own soil.

The travails of some mineral refining operations are also reflected in trade statistics. There is a decrease in the ratio of ore to metal and alloys exports from around 0.80 in the first half of the 1970s to less than 0.30 by the early 2000s, at which point this ratio starts increasing again, reaching 0.37 by the end of the decade. While they are highly sensitive to volatile world prices, such statistics tend to suggest that minerals extracted in Canada have increasingly been sent abroad in their raw form, foregoing even the little amount of value-added linked to refining.⁵

The decrease in manufacturing and the retreat from value-added transformation has been accompanied by a reduction of the investment in research and development. Real spending in research and development has been decreasing since 2001, mostly due to lower amounts invested in the manufacturing sector.⁶ While manufacturing amounted to less than 18 percent of GDP in

⁴ Data obtained from Industry Canada (2010).

⁵ Author's calculations from Statistics Canada data, CANSIM database, Table 228-0043.

⁶ Author's calculations from Statistics Canada data, CANSIM database, Tables 380-0003 and 358-0024.

2001,⁷ more than 60 percent of total business investment in research and development was made in that sector. With manufacturing declining over the last decade, research and development in that sector also went down and the decrease was not compensated by an increase in other sectors. Research and development investment did increase somewhat in services and mining, oil and gas until the middle of that decade, but neither sector replaced manufacturing as the main locus of research and development activity.

Overall, these different statistics paint the picture of a country retreating from a more diversified economy to low value-added production. This is not only visible in the trends for the manufacturing sector as a whole, but also in the mining industry, where refining operations and domestic use are being curtailed in favour of raw mineral extraction and export. Future economic productivity is also being endangered with lower investment in research and development. Decades of hard work to develop manufacturing in Canada are being nullified. Instead of using its mineral riches to support its industrial development, Canada has *de facto* opted to sell them off as they are, in exchange for some of the finished products it used to make.

Booms, Busts and Foreign Returns

Increased dependence on the primary commodity sector is problematic on many accounts. Commodity prices fluctuate a lot, generally more than manufactures or other higher value-added products, so a move down the value chain threatens the stability of the Canadian economy. The effect is compounded through the Canadian dollar exchange rate, now largely determined by resource commodity prices, notably the price of oil, which occupies a large share of the export

⁷ Author's calculations from Statistics Canada data, CANSIM database, Table 379-0027.

market. Recent high oil prices have led to a currency appreciation, hurting further export-oriented manufacturers.⁸ A study by Beine, Bos and Coulombe (2009) indicates that as many as 42 percent of manufacturing job losses attributable to variations in the Canadian exchange rate can be linked to the appreciation of the Canadian currency, itself largely driven by developments in the oil sector. In addition to increasing Canada's exposure to the vagaries of commodity markets, export-dependence on raw materials implies that the country has little control over their final use. For example, Canadian nickel has been used for years in the construction of U.S. tanks. To some extent, this makes Canada part of its neighbour's military endeavours.

Price instability. There has certainly not been a shortage of price gyrations in minerals markets in recent years. Prices spiked in most markets between 2006 and 2007, stayed high for a few months and then came down with the onset of the financial crisis (Dufour 2010). The magnitude of this spike was somewhat exceptional. In the nickel market, for example, the spot price per metric tonne rose above \$60,000 in 2007, after hovering between \$6,000 and \$22,000 for about two decades, a price range it had dropped back to by 2008.⁹ That spike aside, however, variations between \$6,000 and \$22,000 do not spell stability. Similarly, in the steel market, there were three instances when prices jumped by at least 50 percent between 1993 and 2006, only to drop back relatively shortly thereafter.¹⁰ Even in periods of relative calm, prices often trended up or down, producing important variations overall.

⁸ Between January 2002 and January 2010, the currency went from 63 U.S. cents per Canadian dollar to over 95 cents per Canadian dollar (Statistics Canada, CANSIM database, Table 173-0049).

⁹ Data from the London Metal Exchange, via the Datastream database. See Wray (2008) for an analysis of the interrelation of demand pressures from China, speculation by financial investors, and financial manoeuvres by commodity producers and dealers in creating a commodity bubble. My analysis (2010) of some of the commodities used in the Canadian aerospace industry supports this interpretation as well.

¹⁰ Export price per metric ton of stainless steel out of the European Union, obtained from the Datastream database.

These price gyrations have an impact on both producers and end-users. While end-users typically negotiate long-term contracts so that, for the most part, they are not subject to the spot price, the terms of these contracts are still influenced by overall price levels and volatility. For example, if a contract comes up for renewal in the middle of a bubble, questions arise as to the persistence of these high prices (bubbles can last many months). Similarly, high prices will push mining companies to expand their operations. This may be problematic if these prices are only transitory. Mining companies can always adjust production subsequently, but this implies a fluctuating labour demand. In this way, market instability is transmitted to the communities built around the mining operations. Moving down the value-added chain therefore increases the instability of the whole economy.

Instability aside, it is true that when times are good, money can flow in for commodity producers. Could not that outweigh the downturns? Possibly, but it depends on who gets the profits in good times, which in turns depends on ownership, reinvestment patterns, and backward and forward linkages – and who bears the costs of adjustments.

Foreign returns. In recent years, foreign corporations have taken over majority ownership of the Canadian mining sector (Dufour 2010), implying that an important proportion of the industry's profits made are being repatriated abroad. This is especially problematic in the case of mineral resources, since the exploitation of the resource means its depletion. In addition to the drain in financial resources, this can also create balance of payment problems, as these profits are repatriated in foreign currency. Having private domestic owners only partially solves the problem, as this is not necessarily a guarantee that the funds actually stay in the country. Nationalization is evidently a solution and, short of that, there are other options, some of which are explored below.

For primary commodities such as minerals, reinvestment is not the main issue. Investment in new mining projects will not be driven by past profits made, but rather by the prospects for future profits. If one given company does not have the means to invest sufficiently, another one will step in. Mineral deposits cannot be moved; if a given mineral is demanded, somebody is likely to come to extract it. In other words, having mining companies make high profits during an upturn will not in and of itself generate reinvestment, unless there is an expectation of future profits from the exploitation of the resource – which would itself generate investment. This is reinforced by the fact that the product extracted is not associated with intellectual property rights.¹¹ Mining companies could develop new product lines, such as specific alloys, but this is distinct from the extraction of the minerals and sends us back to considerations about refining and secondary transformation.

What about linkages to other sectors? In terms of backward linkages, such as demand from domestic suppliers of inputs in production, research conducted in Europe shows that given the limited amount of inputs needed in mining, they are fairly low (San Cristobal and Biezma 2006). However, the scope for forward (or downstream) linkages is greater. The mining sector could be used to support the manufacturing sector, which would itself foster economic stability and dynamism. A recent study by Statistics Canada shows that manufacturing industries located along the “value chain” of a resource sector seem to be more resilient than the rest of the manufacturing sector, having declined less over the last decade (Beshiri 2010).

¹¹ Unlike the production of specific industrial products, which could be protected by patents and thus be limited to the company owning the rights, mineral production is open. This is not to say that there are no barriers to entry (capital outlays needed, legal access to the resource, etc.), but simply that a given deposit could be exploited by different companies.

Resource depletion. Primary commodity extraction of a non-renewable resource is not economically sustainable. Unless Canadian mineral deposits are used to build and support a varied economy, the country risks resembling an empty husk when its resources are depleted. This calls for a comprehensive strategy to manage natural resources over the long-term. Simply having a Heritage-type fund, like that tried in Alberta, does not quite do the trick: the point is not to have financial assets, but to develop a solid economic base from which the population can support itself. An added benefit of a comprehensive resource management strategy is that some industries could be favoured over others, depending on a wide array of social, environmental and economic considerations. This illustrates once again the problem inherent in the position of junior partner in Empire: not only do Canadians not control the final use of the country's raw materials, but all they get out of the deal is the ability to charge a fee for the resources. This is scarcely a long-term development model.

Subverting Subservience

From nationalization to price stabilization, there are a variety of policy options open to the government, most of which are being used in one guise or another by countries around the globe.¹² These policies imply various degrees of involvement on the part of different economic actors in Canada, but most require a modicum of dedication and imagination. Canadians have not only the resources, but also the know-how, technology and capital. The question is thus one of will, political or otherwise, rather than a technical difficulty. The following are a few of the options.

A new policy approach to minerals exports and foreign investment. The current policy on the mineral sector was enacted in 1996 and puts the emphasis on the role of minerals as export commodities (NRC 1996). The policy document reiterates Canada's commitment to free trade and capital flows, at the same time as it outlines different ways in which it will help exporters. The government also states its desire to attract as much foreign investment in the sector as possible, going as far as stating that "Canada must compete aggressively for a share of finite investment capital." This is an interesting posture, given that Canada is actually a net exporter of capital – the stock of outward foreign direct investment (FDI) has been higher than the stock of inward investment every single year between 1997 and 2009.¹³ In the mining sector, it is not even a question of foreign expertise and technology, as Canada has been and still is home to some of the biggest mining companies.

One of the issues with foreign takeovers is that part of the rent coming from mineral extraction will be channelled out of the country. This could be mitigated by having high royalties, but their level in Canada is relatively modest. Kuyek (2004) reports that through imaginative tax planning and the use of the various deductions available to them, mining companies pay almost no taxes. Given that corporations cannot move and take raw material deposits with them, there is certainly a scope for increasing royalty levels, as well as decreasing some of the various subsidies going to the mining industry.

More generally, rather than aiming to attract the most FDI possible, the government should have a more extensive review process wherein it assesses the way in which this

¹² See Dufour (2010) for an analysis of industrial policy with respect to raw materials in different countries, including China, the U.S., Japan, Russia, and E.U. members.

investment would fit in and contribute to the Canadian industrial structure. This includes the consultation of different stakeholders, such as local communities, but also the setting up of specific conditions to insure that the projected foreign investment have the purported impact, and perhaps also to lend that investment some degree of permanence.

Beyond the government's favouring exports and promoting inward FDI, the document asserts that market mechanisms are the best way to allocate resources and determine prices, implying no direct intervention in the sector to channel the country's mineral resources towards uses corresponding to broader socio-economic goals. However, the 1996 document was followed two years later by another one designed to address forward (downstream) linkages, titled "From Mineral Resources to Manufactured Products: Towards a Value-Added Mineral and Metal Strategy for Canada" (NRC 1998). Despite its title suggesting that the government does take seriously the role of supply management as an integral component of an effective industrial policy, there is only a quite general discussion of synergies between mining and different industries, but no actual strategy, nor specific policy tools to be designed, merely a few thoughts to improve the general business climate. Apparently, the government felt that laying out inter-sector synergies was sufficient for them to materialize.

The Canadian federal government has been following an essentially non-interventionist policy, with some biases in favour of export and foreign investors built in. In this context, it is perhaps not surprising that mineral exports have indeed flourished, while the mining sector was taken over by foreigners and the manufacturing sector was left to languish. Indeed, the situation has gone so far and public opinion so critical, that the federal government recently felt compelled

¹³ Data from Statistics Canada, CANSIM database, table 376-0051. It is true that Canada became a net exporter of

to halt the foreign takeover of one of the largest major mineral sectors, potash in Saskatchewan. One could hardly imagine a more prototypical story for a peripheral country in the world-system, Canada's well-developed tertiary sector aside.

Increase the knowledge base. A first step to bolster the value added-component of the mining industry and promote inter-linkages with manufacturing would be to increase the knowledge base, both of the needs of Canadian industry and of the functioning of commodity markets. The Canadian government does a reasonable job of producing data for the mining sector, determining production, trade, refining and smelting infrastructure, etc. for an important subset of widespread minerals. This list could be enlarged to include other minerals that are important for Canadian industry, notably rare metals used for high-tech applications. For example, Canada is believed to produce Rhenium, which can be used to form super alloys, but there is no data published regarding reserves or production.

The data and analysis also need to be more punctual. For example, titanium seems to have been last surveyed about a decade and a half ago, despite its importance for several manufacturing sub-sectors such as aerospace. Moreover, the analyses are very much focused on Canadian production. Canada should initiate agreements with other countries to develop public data on the global situation for these minerals. Especially important would be a more comprehensive assessment of mineral reserves, given growing concerns about peak minerals and resource exhaustion. Finally, more data needs to be gathered on usage. There are some efforts made in this regard, but they are currently being scaled back. For example, the nickel use survey has been discontinued since 2007.

capital after the mineral policy was enacted, but the stance on FDI itself has not changed since then.

Making the existing surveys on minerals and mining more comprehensive and on-going is an important step. So also should be broadening the study of the links between the mining sector and other industries, notably manufacturing, in order to analyse the ways in which mining can contribute to the rest of the economy. In so doing, an assessment of Canada's needs could delineate more clearly import requirements and what can be supplied domestically. Gathering such information is necessary if Canada is to position itself effectively in world markets and assure greater stability in meeting the needs of manufacturing and developing value-added industries. In the same way, garnering a better understanding of the uses of Canadian mineral resources would give a better idea of their potential, in terms of supporting a thriving manufacturing sector, and thus what the alternative to simply shipping the raw material abroad could be.

Industrial planning. Another step for the country is to rekindle industrial policy and try to evaluate what general mix of industry it wants. In crafting an industrial policy, attention should be given to diversity, synergies, value-added and growth potential – with close attention to social and environmental needs and constraints. The goal should be to promote a diverse and vibrant economy, using the country's natural assets to support value chains on which could be based a process of sustainable development. This can be accomplished by targeting certain industrial sectors and helping bridge existing gaps in the value chain by supporting the development of transformative industries targeted to the needs of the sectors situated downstream. The treatment of the aluminum industry in Québec offers an example of how this could be accomplished.

The aluminum industry is energy-intensive, so it often finds itself looking for cheap energy, making Québec a prime destination. That said, the provincial government did not leave it

entirely to chance. It gives preferential terms regarding electricity and has not hesitated to invest in some plants directly through the Société Générale de Financement (SGF). Of the three aluminum projects the SGF invested in the 1980s – Aluminerie Alouette, Aluminerie Lauralco, and Aluminerie Bécancour, all three of which are still in operation – Aluminerie Alouette provides the most interesting story.¹⁴

Aluminerie Alouette was set up at the end of the 1980s through the financing and leadership of the SGF, which partnered with an international consortium to see the project through. The firm is currently owned by an international consortium composed of Rio Tinto Alcan (40 percent), Aluminium Austria Metall Québec (20 percent), Hydro Aluminium (20 percent), SGF (13.33 percent) and Marubeni Québec (6.66 percent), and is managed independently, with a board made up of representative from each of the partners. This independent management confers to it a greater degree of permanency in the Sept-Îles area than if merely a branch of a multinational. Moreover, the arrangement has worked very well from an industrial point of view, with Aluminerie Alouette becoming the biggest smelter in North America in 2008, following the completion of an expansion project, which made it also one of the most modern and efficient in the world.

Aluminerie Alouette is a good example of active industrial policy, but so are the projects around the Vallée de l'aluminium.¹⁵ Starting with the premise that aluminium is a major industrial asset, the government of Québec, in partnership with Alcan and others, developed a transformation hub in Saguenay-Lac-Saint-Jean, where a large portion of the province's

¹⁴ For a rendering of the story of Aluminerie Alouette, see the website of the company: <http://www.alouette.qc.ca>.

¹⁵ For details about what is going on around the project of the Vallée de l'aluminium, see the website of the organization: <http://www.valuminium.ca/>.

aluminium production takes place. As an enticement, the provincial government has put in place a series of tax credits for firms producing finished and semi-finished aluminium products in the area (Investissement Québec 2009). While the initiative has had some success in bringing such firms to the region, Alcan has been scaling back its primary production activities, even planning at some point to resell its electricity surpluses to the government. This may demonstrate the limitations of relying on public-private partnerships for such projects, given capital mobility. Perhaps a more direct governmental involvement, or the management of the industry by the workers themselves, is warranted.

Beyond the perennial tax credit, one could think of a subsidy/tax mix that would favour the establishment of enterprises making things that are currently imported. Following a suggestion by Stanford (2003), the government could target it towards industries that the government wants to see develop, which could be counteracted by a consumption tax on the products of that very same industry. This would actually be allowed under the current trade regulations, since it would not specifically target domestic firms. Of course, this strategy is mainly practical for products for which Canada has an economically significant consumption level.

Pricing policy. There are other ways Canada's resources could be used to foster industrial development. This includes finding ways to make resources cheaper to obtain in Canada than abroad. China is doing this by charging an export tax on certain minerals, such as aluminium, and it has stemmed their outflow from the country (Dufour 2010). In some cases, China is also pushing some of the mineral producers (and companies doing first transformation) to sell their output cheaper to domestic manufacturing firms than foreign buyers. Under current WTO rules

and given the various trade treaties of which Canada is a signatory, it is not evident that such a plan is currently feasible. Perhaps the objective could be accomplished in some measure by changing the current HST rules where only imports are taxed and not exports. Putting a blanket tax on imports and not exports like the HST favours primary minerals exports to the detriment of production for use within Canada. The tax could be amended to favour only value-added exports.

Of course, the issue of free trade could by itself be revisited. Canada is one of the world's staunchest advocates of free trade, yet one wonders whether this is a wise long-term route. For Canada, a supplier of many minerals, the commitment to free trade versus a more protective stance towards its own enterprises seems self-defeating now that foreign companies own a large part of the mining sector and are thus capturing the mineral rents.

Nationalization. One way besides taxation to resolve the quandary presented by current trade treaty arrangements – short of renegotiating said arrangements – would be for federal and provincial governments to nationalize mineral resources. As the producer, a government could then theoretically implement the set of pricing it wants. This is akin to what some provinces are doing with their electricity, for example. Nationalization is not currently in the air in Canada, but other countries are certainly doing it. Russia, for example, has nationalized some of its mining companies, notably VSPMO-Avisma in 2006 (Kommersant 2006). This company then subsequently entered in a joint venture with Boeing to produce cast titanium parts. Presumably, similar arrangements could be arrived at with manufacturing companies if parts of the mining sector were nationalized. Even if this were not the case, the government could always coordinate projects of this type, fostering forward linkages.

Nationalization is not an end in itself, but rather a means to pursue broader goals of environmental and socio-economic sustainability and justice. In that spirit, South America, notably in Bolivia, Venezuela and Ecuador offers a few recent examples where state-owned companies are used in ways going beyond a mere mimicking of corporate profit-making behaviour, such as the setting up of state-owned companies in agriculture in Bolivia, in an effort to promote food security and environmental sustainability.

Stabilization and stockpiling. Finally, the government could also consider helping end users by stabilizing supply and prices, either by starting a stockpile of some minerals or by devising a price-stabilization mechanism. Stockpiling is a strategy used mainly by buyer countries and, even then, mainly for minerals with a strategic importance and with a definite supply risk. Stockpiles are costly to maintain, so they may not be worth the expense if supply risks are low. Moreover, most end-users nowadays enter into long-term purchasing agreements, so the potential of a stockpile to mitigate price gyrations is limited unless it amounts to many days worth of industrial production, compounding the cost further. So in my view, the use of a stockpile is limited and circumscribed to a very specific set of minerals. Of course, leaving minerals in the ground is also a form of stockpiling. While it may not contribute much to price-stabilisation in the short-run, pacing production to industrial needs and objectives, rather than just extracting as much as possible, is an important part of long-run planning.

Price-stabilization mechanisms, on the other hand, could be useful. The government could set up a body responsible for the country's raw materials supply strategy managed by different stakeholders. It could then conduct joint purchases for manufacturing companies, perhaps through a board on which different sectors would be represented. Supply could be

stabilized at relatively more interesting and predictable prices this way. This could be coupled with an insurance mechanism, whereby the state could shoulder some of the price variation risk. Such an approach could be especially pertinent for smaller manufacturing firms.

Conclusion

In the current global corporate-led scramble for mineral resources, Canada is in a potentially strong position. Yet Canada has moved away from developing a diversified and integrated economy with a thriving manufacturing sector. Instead, the trend is towards greater dependence on primary commodity exports, loss of ownership and control of natural resources, low levels on the value-added chain and a relatively vulnerable and diminished manufacturing sector. All is not lost, however, as Canada has depth in skills, technology and capital. What remains of the manufacturing sector could be used as a base to rebuild anew.

I have laid out a few possibilities in this chapter, and there are undoubtedly more. Most of them would require jettisoning one part or another of the current neo-liberal policy set up, such as free trade or minimal state intervention in economic affairs. In the current political climate, this may be hard to achieve. None of the major federal parties in Canada, the New Democratic Party (NDP) included, currently has a comprehensive industrial and natural resource strategy for Canada, though the NDP has pursued some issues of foreign ownership. In this situation, it may be up to citizens and, in particular, the workers of these industries and communities, to exercise their own leadership to change the political climate and direction of economic development.

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