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Capturing Japan's attention: Canada's evolving economic relationship with Japan

William V. Rapp

Introduction
In this paper, we place Canada's evolving relationship with Japan in the context of the strategic development of large Japanese firms and their changing interest in the Canadian economy. Understanding this strategic development helps to explain why even very early reports on the Canada-Japan economic relationship (Hay, 1972) strongly reflected the nature of Canada's raw material, food and energy bias, but only noted the potential opportunities in areas like software. We look at why this situation has not changed, and discuss some of the options available to Canadians to alter the structure of the relationship, given current and future Japanese corporate goals and strategies and Canada's economic strengths and weaknesses.

In 1965, approximately 98 percent of Canada's exports to Japan were food, energy or raw materials. Many Canadian observers and policy makers expected this export share to drop over time as Canada added more value and shifted to new industries and services. But almost thirty years later, the "rocks, food and materials" export ratio to Japan had only declined to about 93 percent (Canada-Japan Trade Council, 1994), compared to a comparable share of raw materials in US exports to Japan of only 48 percent. Although both the Japanese and Canadian economies had advanced significantly, Canada's interface with Japan by the early 1990s appeared to be stuck in the 1960s and
70s. In 1993, exports of energy and raw materials accounted for only 44 percent of Canada’s total exports; the comparable US ratio was 30 percent. While US-Japanese exports have been somewhat skewed towards food, raw materials and intermediate products, Canadian exports to Japan have been overwhelmingly so, even though more than 15 percent of Canada’s total exports are high technology products (Smith, 1991), up from 10 percent in 1987 (Statistics Canada, 1988).

In examining this situation from a Japanese perspective, these results are not so surprising. Japanese energy, raw material and food processing firms are not growing. If 1990 is 100, an index measuring growth in the steel industry would have dropped by 1993 to 89, in non-ferrous metals to 98, in fabricated metal products to 95, in non-metallic minerals to 91, and in pulp and paper to 99. Food and tobacco would have remained at 100 (JEI, 1994). The primary goal of Japanese firms is continued corporate existence and employment. They therefore will not increase value-added in Canada when this would mean unemployment in Japan. Since Japanese plants are fully depreciated, they can maintain competitiveness through additional investment even though the returns are only marginal in these negative-growth industries. In addition, experience indicates that raw material resources over time are subject to depletion and increased cost. Japanese firms are seeking to maintain the flexibility to shift the sources of procurement. Without legal compulsion, there is little likelihood Japanese firms will increase their value-added processing in these sectors despite Canadian exhortations (McMillan, 1989; Canada-Japan Trade Council, 1990).

Because these Japanese industries are under continued economic pressure, there is little incentive for them to shift the nature of their relationship from long-term trading contracts to foreign direct investment (FDI). This is probably one reason why Japanese FDI in Canada has remained quite low compared to investment in the United States or Europe, even though Japanese firms have expanded their activities in the United States (Rugman, 1990). Indeed, as of March 31, 1994, total Japanese FDI in the United States was US$177 billion compared to $7.8 billion in Canada and $2.2 billion in Mexico (JEI, 1994). Total FDI in the United States was about equal to Japan’s total US trade in 1993 of $160 billion, while Canada’s two-way trade of about
US$14 billion was roughly twice the value of investment received from Japan. There appears to be some statistical basis for the claim that Canada is not receiving its share of Japan’s investment and economic attention (Canada-Japan Trade Council, 1990).

Economic considerations, rather than fairness, ultimately determine inward investment flows. Canadian policy makers should therefore think seriously about the relative disparity in economic attention indicated by these data, especially in light of Japan’s current and evolving economic structure. Japanese trade and FDI are actually extensions of the competitive behaviour and strategic orientation of Japanese firms. These rarely have any relationship to the desires of a host country like Canada. It therefore appears that more direct investment will be destined for Canada only if Canada’s policies shift in a direction that is more congruent with the business interests of Japanese firms.

Japanese multinationals (MNCs) have three major international business interests. First, they seek to develop low-cost manufacturing of labour-intensive standard technology products in Asian countries. This will help to improve their global competitiveness and ensure access to these emerging high-growth markets. Second, they seek to retain and improve market share in autos, auto parts and consumer electronics in their major North American and European markets, building on existing investments (Rapp, 1993). Third, they seek access to new technologies and products that enhance competitiveness or can be introduced as shinbatsu (new products) either in Japan or the global market (Rapp, 1993). These interests include software and biotechnology—areas in which Japanese firms are relatively weak.

Understanding these strategic motivations is critical to influencing Canada’s current economic interaction with Japan. Without any shared security interests or larger global connection, the relationship between the two countries is determined primarily by two-way trade and direct investment. Canadian investment in Japan is small and Japanese portfolio investment, which was fully hedged after 1985 to avoid large exchange losses, subsequently declined sharply after the asset bubble burst in 1990 (Wright, 1994). Portfolio investment is in any case inherently transitory and subject to the vagaries of the market and investor preferences, so it does not represent a long-term
commitment to Canada and does little to define the relationship over the longer term. The same reasoning applies to contractual relationships which have a finite life.

The strategic relationship revolves instead around flows of more permanent trade relationships and direct investment. These have been largely driven by three major influences: Japan’s level of economic development when Canada’s relationship with Japan was most dynamic; Japan’s constantly evolving economic structure and relationships with the United States and other nations, especially Asian; and, perhaps least recognized, Canada’s experience in managing relationships with economically powerful nations like the United States and Britain. Gaining an understanding of the first two influences requires some appreciation of Japan’s competitive development and the emerging global strategies of its multinational corporations (MNCs). MNCs are responsible for most trade and investment, and are the organizations with which Canadian companies and policy makers chiefly interact.

The trade and FDI strategies of MNCs reflect both their administrative heritage and their current competitive environment, which is global rather than bilateral. The global strategic behaviour of Japanese MNCs in Canada and other countries is a logical consequence of their experience managing the interaction of product cycles, their lower cost expectations based on continuous improvement, and their industry’s evolutionary and competitive development. It is true that the direct investments of Japanese MNCs have grown rapidly over the last fifteen years (Komiya, 1987; Okumura, 1989; Komiya and Wakasugi, 1991). However, so did their international trade in the years before that, and one is a direct extension of the other. Once the domestic market was saturated with a product, they began to export it (Porter, 1990). Then, having established an international presence, they started servicing customers better, hedging exchange risks, and extending sales opportunities. Finally, they invested in productive capacity or acquired foreign companies, in response to actual or potential import barriers or the need to acquire new skills and technologies. Throughout this evolutionary process, MNCs were constantly aware of their administrative heritage and long-term strategic objectives.

Sony’s acquisition of CBS Records and Columbia Pictures, for example, was driven by its earlier experience with Betamax, where the
system was ultimately rejected in favour of the VHS format because of insufficient software support. Sony could not afford a similar experience in 1 3/4" CD or 8mm video, so it purchased major software producers with extensive libraries and cross-licensing arrangements. Then Matsushita responded with an acquisition of MCA, and Toshiba tied up Time-Warner, since neither company wanted Sony to have a market advantage they could not match. Matsushita has only recently perceived Sony's strategy as less of a threat, and this, combined with MCA's management difficulties, has prompted them to divest 80 percent of MCA. Some of the reasons for this competitive compulsion are analyzed in this paper and are covered in more detail in other studies (Ohmae, 1991; Rapp, 1992; Yoshino, 1968).

Situations like these make it clear that the trade and FDI of Japanese MNCs have been heavily influenced by domestic competitors. The motivations of MNCs often have less to do with extending profit opportunities for new technologies than with a concern for protecting global market share, maintaining low cost production, and ensuring firm survival (Porter, 1992; Rapp, 1992). As Japanese MNCs continue to adapt to pressures and changes in their economic and political environment, it is expected that their future decisions will represent similar responses. Their behaviour toward Canada will be determined by how they perceive Canada's contribution to the achievement of their strategic objectives within this dynamic context. If Canada or Canadian firms wish to participate in and benefit from this evolving situation, they must position themselves to capture the attention of Japanese firms. This is a radically new situation for Canada. In the past, Canada has been courted by offshore interests. Now, because of the growing weakness of the Japanese government—relative to its corporate giants, Canada can rely less on diplomatic ties.

The emerging motivations of Japanese MNCs in a global context
Canadian firms and policy makers who wish to position themselves competitively relative to Japan's evolving economic structure must understand the pressures and considerations that will affect the decision-making of Japanese MNCs in the future.
Corporate existence

Corporate existence remains the primary organizational goal. Companies must ensure the survival and benefits of their senior executives, and their lifelong commitment to the firm, customers, employees, suppliers, and banks. Alternative employment for top managers is limited, so they are more concerned with ensuring the firm's continuous wage stream than with maximizing corporate profits (Rapp, 1992; Porter, 1992; Fruin, 1992).

To achieve this goal, managers must protect the firm against the effects of further yen appreciation, and prevent shifts in production of major products towards developing countries. They must also offset persistent US protectionist pressures by reducing the bilateral deficit. For most companies, the task of maintaining corporate competitiveness will be complicated as an aging labour force and low birth rates, combined with continued corporate growth, will make Japanese labour shortages acute, especially for technical personnel. At the same time, in many raw material processing industries, where slow or no growth is limiting productivity improvement, maintaining employment will be difficult.

Technology upgrading

Constant upgrading of technology within industries (intra-industry technology) will be necessary to meet competitive pressures from Japanese and foreign competitors, and to meet customer demand for quality improvement (Imai, 1986; Abegglen and Stalk, 1985). Some upgrading will depend, as it has throughout the post-war period, on continued access to more advanced global technology. Upgrading is also a way to counter the shift in competitiveness towards developing countries, and to deal with cost pressures due to labour shortages, slow growth and a stronger yen.

Intense domestic competition leading to "band wagons"

Japanese producers within each industry face similar external environments, and managers have similar backgrounds. There is a tendency, therefore, for most competitors to follow the leading Japanese firm. For FDI in mature markets like raw materials processing, autos or consumer electronics in the United States and Europe, this can lead to
overcapacity and “excessive competition” (Ohmae, 1991). But since
government action usually preserves market share, being the most
aggressive investor domestically and overseas, as well as the lowest
cost producer, remain the best strategies (Rapp, 1992). Overcapacity
and excessive competition in these global markets are likely, which
will force Japanese firms to increase productivity and remain low
cost producers.

Controlling technology transfers
Controlling technology transfers to the industrializing economies is
one way to achieve these objectives. The industrializing economies in
turn will try to emulate Japan and develop global competitors who
will evolve with the product cycle. This process is a logical outcome of
Vernon’s original product cycle model (1966), which describes the
systematic shift in comparative advantage for a new product from its
introduction by a developed country, such as the United States, to a
first-follower such as Japan, to subsequent followers like Taiwan,
Korea or China. The model was extended by Krugman (1979) to show
that the original innovator can maintain its trade advantage by
constant, rather than one-shot, innovation. The Vernon-Krugman
argument stresses constant product innovation as the driving and
dynamic motivation for shifts in the comparative advantage and in the
product cycles of western firms. Japan and other followers become
competitive through technology transfer and lower labour costs. In
their models, however, there is no mention of the role of process inno-
vation. Japan’s improved terms of trade, yen appreciation, and Japan’s
ability to remain competitive despite wages that are now higher than
many Western competitors cannot be explained without considering
process innovation.

Controlling the transfer of process innovation though FDI is
central to Japan’s management of the product cycle. This ability,
which relies heavily on tacit knowledge and improvements in organi-
zational structure (Nelson and Winter, 1982; Florida and Kenney,
1991) provides the key to both the strategic intent and global
competitiveness of Japanese firms. Unlike product technology, which
can be copied by a follower country once it is seen, process technology
requires the active participation of the developer. And since process
innovation can usually proceed at a more rapid pace than product innovation, a logical extension of the Krugman hypothesis is that successful process innovators will attract capital and improve their terms of trade, leading by extension to currency appreciation. These theoretical outcomes are all consistent with Japan’s actual development.

**Saturated markets**
The Japanese market is fairly well saturated for many established products, but Japan’s demanding customers make it a large and important market to control for companies introducing product innovations from abroad. By supplying this market, Japanese firms are able to apply and develop the process innovations that give them their competitive advantage before transferring this expertise to their foreign affiliates. To maintain a competitive position, however, the Japanese market in such mature industries must always be supplemented by overseas sales. Maintaining or growing market share domestically and abroad therefore remains an important strategic objective, especially as European and North American markets become more closely integrated. Japanese MNCs must participate in these large, wealthy, advanced markets to be globally competitive, especially if their customers and competitors are moving in this direction. FDI, therefore, is a key element in their corporate strategies, along with strategic alliances.

**Little political interference**
Japanese MNCs pursue their strategies with little domestic political interference because the Japanese government has no clear economic goals and has been hurt by various recent political and financial scandals. The government’s ability to exercise authority over the MNCs outside Japan is weak. Managing the trade and FDI process, therefore, is likely to be left to the companies, competitors and foreign governments.

**Lack of policy congruence**
Japan’s major challenge is to meet growing transfer payments to an aging population. The government wants to develop successful
advanced industries like software, aerospace, supercomputers, biotechnology and telecommunications, through continual “inter-industry” rather than “intra-industry” development. The MNCs, however, have little desire to phase out their existing businesses since this could threaten their corporate existence. They will resist policies that transfer resources from established industries like consumer electronics, automobiles and steel, to fields like aerospace. This lack of policy congruence is new, and will lead to more independent action by the MNCs that may affect trade and FDI. Their actions will be reinforced by the competitive advantage Japanese firms have in process innovation, since this advantage is dependent on their unique product-specific organizations and production systems—things that are not always easily adapted to totally new product areas.

Given these considerations, it is logical for large Japanese MNCs to try to manage the product cycle. Since FDI and trade will become increasingly important strategic activities within the cycle, Japanese FDI must be seen as part of a total corporate system for creating and maintaining competitive advantage that will ensure corporate existence through constant investment and productivity improvements. The steel industry is one example of such a strategy. Japanese steel producers have invested in US steel companies and upgraded their process technology and capital stock to supply Japanese auto companies. This has made them and the US firms less vulnerable to other offshore competition. And since Japanese auto companies use higher quality steels, such as very thin light weight one-sided zinc coated sheets, this forces US auto producers to improve quality, too. But the product is only available from Japanese-affiliated US firms, so offshore producers are denied markets they might otherwise have captured through the traditional product cycle evolution, as the US industry matured and its firms became less competitive. This strategy has obvious implications for Canadian steel producers. It also illustrates the impact of process innovation: the firm was able to control its transfer of technology by modifying the traditional product cycle, instead of waiting for competitive advantage to evolve to the second- and third-level followers.

It is not necessary to review Japan’s entire postwar economic performance to fully appreciate the reasons for and motivations behind
these strategies. It is important, however, to recognize the role that product cycles have played within Japan's industrial development, and to appreciate direct investment's place within these cycles. Historically, Japanese industries and firms have been followers and imitators. Japan first produced and exported simple manufactures and primary commodities such as copper and raw silk. Then growth and development improved technical production capabilities and generated demand for more advanced products, initially cotton textiles and then machinery, steel, shipbuilding, automobiles, integrated circuits and computers. Since more advanced industries were frequently capital intensive, growth and capital accumulation created conditions that shifted factors of production in directions that improved Japan's economic development, even though, overall, Japan lagged behind similar developments in advanced industrial countries (Akamatsu, 1962; Vernon, 1966; Rapp, 1967).

**FDI's place in the product cycle**

In this follower pattern of industrial development, products were first imported from the more advanced countries where they originated. When domestic demand developed further, the government protected the industry. As the local market became saturated, the industry grew and began to export (Porter, 1990), and producers became more efficient. Japan was assisted in this evolution, because firms in the more advanced countries simultaneously became less competitive in these follower industries as their economies grew, capital increased and wages rose. At the same time, they were moving into more advanced industries and into products that were more in demand, for which they had the production factors, and that justified higher wages. Since their industries were usually more technically sophisticated and capital intensive, their economies were innovating and creating the demand, technology, and capital required to competitively develop these higher value-added industries. This growth and development, generated by the creative destruction of old industries and the introduction of new ones (Schumpeter, 1947) is entirely consistent with the Vernon-Krugman model.

Once the new technology was known, the cost of transfer declined, which helped followers like Japan. Once they become globally
competitive, Japan exported first to developing countries that wanted to develop a specific industry, and where they were likely to face relatively equal competition from advanced countries. These markets also tended to be price sensitive, so aggressive pricing strategies by followers like Japan could overcome quality or service problems. After they built their export experience, reduced their costs even further and increased quality, Japanese firms began to export to the more advanced markets. The industries were usually mature in these markets, and many of the targeted products were produced in high volumes. Price competition was again a good entry strategy. As the Japanese economy developed, its own labour-intensive, lower value-added industries became subject to similar competitive pressures from followers like Taiwan and Korea who, in turn, have experienced their own shifts in competitive advantage to countries like China and India. This classic international product cycle was first observed in an analysis of Japan’s cotton textile industry and the corresponding decline of the industry in countries like the United States and the United Kingdom (Akamatsu, 1962).

This industrial and trade development pattern involved several stages: building domestic markets by importing from advanced countries; producing domestically to substitute for those imports; exporting to developing countries; exporting to more advanced markets; and, finally, importing from less developed countries. FDI usually emerged in the later stages, when exporting to advanced countries or when importing from the developing countries where producers were often Japanese-owned. This situation appeared in the 1970s in the textiles industry, when FDI was used to maintain export competitiveness to advanced markets, and for imports back to Japan (Ozawa, 1979).

The import substitution stage has usually been the high-growth period. By the initial export stage, domestic growth was often declining, motivating firms to export. By the later export stage, the demand from Japan and the advanced country was usually mature, so that gains in global market share became more of a zero sum game. Yet exports also became a larger part of total production (Abegglen and Rapp, 1972; JEI, 1991). This meant that burgeoning Japanese export competition would cause political pressures from the affected

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countries—stimulating Japanese FDI to leap protectionist barriers and preserve their market presence. For this reason, Japan’s MNCs have used direct investment at a much later stage in the product cycle than US producers. The latter have sought primarily to capture new markets and profits for their innovations. For the Japanese, the markets exist and the products are not new. Once these FDI infrastructures were in place, Japanese firms, like the US producers (Vernon and Wells, 1991), could then introduce or produce products in those locations as well as in Japan, collapsing the evolutionary process and changing the nature of global competition.

Depending on the industry and Japan’s domestic growth rate, this industrial development sequence could take twenty to forty years. But because Japan has been changing its ability to produce and use advanced technologies, at any given time the industry mix has been at different stages. For example, while the cotton textile industry was declining, the synthetic textile industry could be investing abroad, the steel industry exporting successfully to several countries, the auto industry starting to export, semiconductors beginning production, and the aerospace industry importing. This profile would, for example, describe Japan’s structure in the late 1960s fairly well. That was also the period in which Japan started to become interested in Canada as a major raw material supplier to its growing raw material processing industries.

World War II played a role in this evolutionary process by determining Japan’s administrative heritage as a leading process technology innovator. The war set Japan’s economy back about twenty years, so that even existing industries repeated the evolutionary pattern in a short interval during the period immediately after the war. Managers in all industries—even in traditional ones like textiles and steel—became aware of the effect of product cycle forces in their industry, and of the cost reductions generated by high growth, market expansion and the introduction of new technologies through rapid investment (Abegglen and Stalk, 1985). At the same time, Japanese firms were importing product and process technologies developed by others and, to encourage competition, the Ministry of International Trade and Industry (MITI) was not permitting exclusive licensing agreements. The ability of Japanese firms to differentiate themselves
and to succeed competitively was therefore dependent on their process innovation adaptations to reduce costs and improve quality. The firms that became globally competitive, such as Toyota and Matsushita, did this extremely well.

In managing this process during the postwar period, a divergence emerged between the firms’ goals to maintain their existence and global competitiveness in areas of core competence, and the government’s industrial development goal to promote new industries. This divergence helps explain Japan’s strong and FDI patterns. For example, based on its industrial vision, MITI moved in the 1960s to phase out the domestic cotton textile industry while promoting semiconductors through projects like the Very Highly Integrated Semiconductor (VHIS) project. This approach persisted into the 1990s, but government protection and support shifted to supercomputers and satellites. With each shift, Japanese FDI increased in the sector being “officially” phased out, as firms in those industries resisted the implications of the phaseout. Managers have not accepted such competitive shifts as inevitable, especially where the shift would have an adverse effect on the firm’s results. Managers could not simply move production (e.g., capital and labour), from the production of textiles, steel, and automobiles to the production of computers and airplanes, since this would mean selling or scrapping their major assets or dismissing their employees. In addition, their competitive advantages lay in their industry-specific organizational structures and innovative production processes, so they pursued a mixed strategy, combining resistance with the pursuit of shifting competitive advantage, while generally remaining in their basic businesses. This strategy contrasted somewhat with the one followed by American firms. Through the political process, managers of US firms sought and often received protection in response to similar competitive developments. Indeed, over twenty years, a series of “Voluntary” Restraint Agreements (VRAs) in textiles, steel, television, machine tools, autos, and semiconductors were negotiated in an evolution that both confirmed product cycles and Japan’s successful entry into more advanced industries. US firms also lobbied for a dollar devaluation with some success in the 1971-73 and 1985-87 periods, while investing offshore, to reduce production costs and maintain manufacturing competitiveness.
The textile industry was the first to be subject to these forces. It led the way with this strategy in the early 1970s by investing in developing nations. Then, in the 1980s, Japanese MNCs changed their strategic use of FDI by successfully investing in advanced countries like the United States and Europe to preserve market share. The key to their success was their ability to successfully transfer their organizational and innovative process advantages without losing control of their competitive advantage. In contrast, US innovators transferred their product innovations to potential competitors through licensing or other arrangements (Vernon, 1966; Vernon and Wells, 1991; Krugman, 1979). One example was Matsushita's successful transfer of its global air conditioning operation to Malaysia in the late 1980s (Craig, 1995). This medium-technology product was by then uncompetitive in Japan (as textiles had been in the early 1970s).

FDI in developing countries clearly had benefits for both Japanese and Western MNCs. It captured market growth in the developing countries, frustrated the development of local competition, and kept support, sales, and managerial people employed in Japan. Nike's migrating global production strategy is a good example. Nike showed that FDI could extend and manage the international product cycle by increasing imports from the developing countries—imports that were produced in plants owned by the importers. Meanwhile at home, American, European, and Japanese firms expanded into new, more advanced areas that were either related to their existing businesses or were completely different (i.e., they upgraded and diversified). Many Japanese companies followed this pattern of protection, offshore sourcing, diversification, acquisition and technical improvement after the 1985 yen revaluation and the automobile and semiconductor VRAs. They also made large gains in manufacturing productivity in Japan through massive investments. These improvements were then incorporated into their FDI in the United States and United Kingdom, expanding their competitiveness worldwide. This confirmed their emphasis on process innovation as the primary industrial development strategy.

Of course, the potential to upgrade or expand an existing product line through R&D and technical change or intra-industry development has always been an important aspect of the classic product cycle.
(Rapp, 1975). Synthetic textiles emerge after cotton textiles; high
grade alloy steels follow carbon steel; colour television follows black
and white. As Japanese firms have advanced through these stages of
intra-industry development and acquired the available pool of existing
foreign technology, they have ceased to be followers and have become
product innovators. Additional intra-industry development then
required more invention along the lines of Krugman's basic model.
Still, such innovators were constantly subject to competitive pressures
from fast imitators that had excellent process innovation capabilities.
Thus, by the mid-1970s, as Baba (1989) argued, the fast imitators had
to become more innovative while the innovators had to become more
cost-oriented or conscious of process innovation possibilities in their
new and established products. Those who could not make this shift fell
behind competitively and became vulnerable to foreign or domestic
acquisition, as happened with GM-Isuzu, Merck-Banyu, and Nissan-
Fuji Heavy Industries.

Japanese firms have differed from many of their Western counter-
parts by not abandoning production of the simpler technological
products for which there was still large global demand (Vernon
and Wells, 1991). For example, Fuji continued to dominate the com-
cercial print film market after it drove Kodak out through intense price
competition in the early 1970s. Instead, as part of their logical strategic
behaviour to maintain corporate existence and employment, they
used FDI to move the older products offshore while producing the
newer ones at home. Honda is another example. It first produced its
Civic in North America, then introduced the Accord, and recently
announced the migration to Ohio of its low-end Acura, the Integra.
Similarly, Toyota’s production in China is based on a subsubcompact
built by its affiliate Daihatsu, a vehicle size not even manufactured by
the US Big Three. This strategy keeps the non-production people
associated with those products employed, while exploiting their
advantages in organizational and process innovation.

Intra-industry product cycles have affected Japanese FDI by hav-
ing an impact on the motivations behind particular offshore invest-
ments. While inter-industry evolution can stimulate FDI to acquire
new technologies for introduction into Japan, intra-industry evolution
stimulates FDI to protect global market share. Firms have not had to

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give up sales and earnings, but they have denied potential competitors from developing countries a production platform from which to enter the industry and do to the Japanese what the Japanese did to the Americans.

This FDI pattern also shows up as investments in offshore assembly operations to leap trade barriers, as Japanese auto investments have done in the United States, Canada and Europe, and synthetic textile investments have done in Indonesia. Similarly, investments in manufacturing facilities in developing countries have been used to source less expensive parts for assembly in Japan (Rapp, 1993), and to create export platforms to remain competitive in products previously supplied from Japan (Ozawa, 1979). High quality and technologically advanced parts production is retained in Japan and exported in place of assembled products. In the automobiles industry, for example, US auto parts imported from Japan rose from $7.5 billion in 1987 to $12.7 billion in 1993, while auto imports remained virtually unchanged at $21 billion.

This unbundling of production in an industry using offshore investment seems to dominate Japanese corporate behaviour patterns—a pattern that is consistent with the evolutionary theory of Nelson and Winter (1982)—since firms normally innovate close to existing areas of experience. FDI is initially an innovation, so firms will invest first in existing areas of expertise. When they diversify into new products through FDI, it is usually to gain access to foreign technologies or expertise only available through an ownership interest. Otherwise, long-term contracts are sufficient since they involve less capital and commitment.

Long-term contracts were the preferred strategy for obtaining secure raw material and energy resources when Japanese firms had little mining, oil and gas, or large scale agricultural expertise. Canadian companies were major beneficiaries of these strategies during the 1960s and 70s, but those industries are now mature. And, after two oil crises, increased environmental concerns and three major yen revaluations, such energy-intensive Japanese raw material processing industries are not really globally competitive.

We have described the way Japanese firms use offshore investment to respond to changing economic forces that shift competitive
advantage. This has a number of impacts. Workers and managers in various countries experience constant shifts in employment. Host country competitiveness is also affected. The differential effect on corporate and national competitiveness is important since it explains the influence of product cycle analysis on the strategic thinking and competitive behaviour, including offshore investment, of Japanese MNCs. It also explains why, despite excellent diplomatic relations, Japanese firms have been reluctant to increase the value-added processing of Canadian raw materials, why Canadian exports to Japan continue to be mostly raw materials, and why the Canadian share of Japanese FDI appears modest. The reality is that Canada is no longer at the leading edge of the global strategic thinking of Japanese firms, and getting there will require a significant policy shift.

The changing Canadian-Japanese paradigm
Canada's economic relationship with Japan, dominated by raw materials, is somewhat stuck in the past. Since Japanese raw materials processing firms are not growing and are focused on corporate existence and employment, they will not increase value-added in Canada when this would mean unemployment in Japan. Industries are under continued economic pressure, so there is little incentive for them to shift the nature of their relationship from long-term trade contracts to FDI. This is one reason why Japanese FDI in Canada has remained low compared to the United States or Europe, as was indicated earlier.

While these results can be explained in terms of Canada's existing Japanese customers, it is less apparent why Canadians are not doing more in other areas, since they have been able to sell advanced manufactured products and software to US customers. The answer lies in the fact that Japanese trade and FDI remain extensions of their firms' competitive behaviour and strategic orientation, which often has little to do with a host country's desires. Canadian firms fit into the three objectives of Japanese MNCs in the following ways.

First, has has been noted, Japanese MNCs seek to develop low-cost manufacturing in Asian countries for standard technology products. These investments use advanced Japanese manufacturing methods to supply high quality parts and finished goods at competitive costs to
both the local market and global supply chains. They help Japanese firms maintain global market share despite a rising yen, while impeding the development of new competitors. Canadian firms can participate in this activity by helping Japanese firms supply infrastructure needs and develop their natural resources. New raw material or energy supplies could come from any low-cost global producer, including Canada. The activities of firms like Ontario and Quebec Hydro that work with Japanese electrical equipment suppliers to increase local power supplies fall into this category. Among advanced countries, Australia seems to be doing well in this regard.

Second, Japanese MNCs also seek to retain and improve market share in their major North American and European markets. Attracted by the FTA and NAFTA, Canada participates in this trend through Japanese investments in Canadian autos, auto parts and consumer electronics (Rugman, 1990). Canada has little control, however, over the timing, location, nature, size and scope of these investments since they are driven by the strategic perception of market and competitive developments of Japanese firms.

Third, Japanese MNCs seek access to new technologies that enhance corporate competitiveness, or that they can introduce as shinbatsu (new products) into the domestic or global market (Rapp, 1993). This area includes software and biotechnology, where Japanese firms are relatively weak. Access to the Japanese market, however, could improve Canadian competitiveness globally and help create a sustainable advantage for some Canadian businesses, not only in Japan but worldwide. There are complementary interests in this area that clearly have potential, as the recently announced Fujitsu-Delrina strategic alliance to produce a new facsimile software product illustrates. But there is also frustration, since there are few of these alliances. Several Canadian commentators seem puzzled that more business has not been conducted (Donnelly and Kirton, 1988; McMillan, 1989) in these sectors, especially in light of numerous strategic alliances with US technology firms. Perhaps part of the issue could be better addressed if Canadian firms had a better appreciation of the interaction between the economics of these industries and Japan’s competitive paradigm. This paradigm, which is driven by innovation, differs sharply from the model with which Canadians have

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had the most experience. Canadians are more used to Japanese firms emphasizing low cost and the reliable supply of energy, food and raw materials.

**Innovation and competition in Japanese high technology industries**

To understand the Japanese paradigm, it is necessary to understand that in Japan, as in most other developed countries, the high development cost and low reproduction cost for software and biotechnology products means that the user base, rather than the cost of production, drives the cost structure. In software, this situation can also combine with the increased utility to the user resulting from a larger user base. That is to say, some software is like public goods, where increased use enhances utility and value. This characteristic results in strong first-mover advantages and a tendency towards oligopoly or even monopoly, as larger user bases lead to falling prices by software market segment (e.g., word processing, spreadsheet, netware, operating system, or graphics program). In turn, prices tend towards equilibrium where the cost of adding a user (reproducing the program), equals the increased utility to the user. The latter becomes relatively constant once a large user base exists. There is also an incentive for mergers and for large developers to have their programs manage and handle the systems of their largest competitors. These economics mean the cost per unit for a successful program drops rapidly, establishing a large competitive barrier (to non-infringers) from the standpoint of cost and user experience.

After initial development, most software or biomedical improvements are evolutionary rather than revolutionary, facilitating the “upgrade” marketing approach to the existing user base given low incremental development costs per unit. Since an expanded user base lowers the average initial development cost and the unit cost of improved versions on both a local and global basis, this characteristic also promotes globalization based on localization and adaptation of existing programs or biological formulations.

Patents using Patent Convention Treaty (PCT) filings in major markets are generally a good way to protect biotechnology inventions, but copyright is an even better method for protecting software in the

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long term, since protection in global markets is automatically 50 years in duration. Copyright protects only the expression of an idea, however, and not the idea itself (e.g., the style of a spreadsheet rather than the concept of a spreadsheet), so it is normally considered weaker than a patent. But for most users, the expression ties them to the program as they learn to use it and become familiar with its capabilities and idiosyncrasies. It is therefore difficult to change the expression of the idea since this alters the external benefits to users. It also means the infringer cannot access the user base that determines firm economics, so potential imitators cannot compete practically and legally.

These characteristics imply that a Canadian firm that develops a new biotechnology or software product can protect its intellectual property in Japan or other triad markets. Equally important, however, is the ability to sustain that technical advantage. This requires both a sophisticated market entry strategy and continual innovation according to the Vernon-Krugman model, since Japanese competition in new products and services is very intense, especially when a foreign firm initiates the process. In the case of autos, food and raw materials development, Canadian business has been an extension of the product strategy of Japanese firms. But when Canadian firms are the innovators, a Japanese strategic alliance becomes an extension of the Canadian development. This means Canadians must understand and manage the strategic process.

The pattern of competition in Japan
It is well established that most large, successful Japanese firms have developed by importing products and technology from abroad, by producing for the local market, by improving on the product and the process for manufacturing it on an innovative and proprietary basis, and then by exporting. This competitive development has been supported by rapid rates of investment and aggressive pricing to build volume and global market share. These firms lack the ability, however, to establish product differentiation in a market served by similar producers using similar technologies. As a result, price pressures are severe. This pattern has been repeated in a series of more technically sophisticated and higher value-added industries (Abegglen and Rapp, 1970 and 1972; Abegglen and Stalk, 1985; Baba, 1989; Rapp, 1992;
pp, 1993). The leading firms emerging from this intense "weeding-
out" process are the ones that are best at continually reducing costs.

A careful analysis of firm behaviour indicates, however, that com-
titive pricing is not used uniformly across all products and market-
gements. Dumping investigations into products like televisions,
tomobiles, steel, semiconductors and textiles indicate that the
mestic Japanese market has been used to subsidize export sales in
rer markets (Rapp, 1986). In addition, excessive protection in one
ot of a product-process chain may subsidize a whole series of related
ducts, services, and technologies, including their export to third-
yntry markets. This can be seen in the support that ammonia-based
icals receives from ammonia-based fertilizers, and the caustic
la cartel's subsidization of the chlorine-based chemical chain,
cluding PVC (Rapp, 1986). Similarly, Ostrom (1993) found Japan's
per products market to be so segmented that each submarket is
inated by one or two producers. He notes, for example, that while
mogawa is one-tenth the size of the largest paper producer, Oji, it
is a 55 percent share of the insulating paper market. Since market
re and profitability are generally correlated, one would expect
mogawa to receive much of its profits from this market.

At the same time, Japanese manufacturing firms usually offer a
ll range of products to their customers. When a competitor brings a
ew product to market, it is quickly copied. Sony's "Walkman" was
olved by models from Sharp, Matsushita, Toshiba, Hitachi,
d Sanyo. Similarly, Honda's entry into luxury cars was copied by
ota and Nissan and then Mitsubishi and Mazda. Firms seem able
trol costs in their expanded product lines because most major
uto and electrical manufacturers are assemblers, and less integrated
an their Western counterparts. Many use the same major sub-
tractors, so it is at the subcontractor level that market conver-
tion tends to occur. Toyota has larger volume and lower costs than
zda, and more power vis à vis major auto parts producers. But by
ying from the same major subcontractors, Mazda can take advantage
Toyota's scale and efficiency. Toyota in turn benefits from the added
ume of production by its subcontractors (Smitka, 1990, 1991;
tin, 1992). Nevertheless, from a Canadian or US management view-
point, the fact that Japanese firms are willing to incur any additional
cost in such a competitive and price sensitive environment appears
contradictory.

The answer to this apparent contradiction lies in the “competitive
compulsion” or intense “follow the leader” behaviour that has been
well described by Ohmae (1991) and Yoshino (1968). Rapp (1993)
also notes that reluctance to risk another Japanese competitor gaining
an advantage or, just as important, gaining access to a major
customer abroad, which subsequently could be developed into a
domestic or global relationship, is another strong factor determining
Japanese FDI.

With this background, it is now possible to state the competitive
paradigm.

Japanese firms often offer products or services to protect and
maintain existing client relationships and market share. This is more
important to them than making a profit. Firms consciously use
existing business to cross-subsidize such activity. In other words,
profits from core activities—oligopolistic or regulated markets where
a firm has pricing power or low costs due to organizational and pro-
prietary process advantages—are used to subsidize new or peripheral
activities, frequently priced at or below cost. In peripheral products,
competition is particularly severe for all except for the most efficient
producers. Since all feel obliged to offer these products, they become
relatively undifferentiated products sold almost solely on the basis of
price (Rapp, 1994).

The competitive pattern is, therefore, one in which firms generate
profits from a small number of businesses, but break even or lose
money on many ancillary products and services that encircle the
customer. For example, banks receive higher returns from group com-
panies than non-group members (Caves and Uekusa, 1976). The firm’s
overall return on equity may be no different from Western counter-
parts trying to equalize returns across a portfolio of businesses, but
competitive behaviour and resource allocation differ. Resources tend to
be allocated disproportionately to core businesses where the firm is
quite competitive. The firm also focuses its process and organiza-
tional innovation on these businesses. Peripheral businesses, in contrast,
are run as “service” or loss leaders. Market share in core businesses is
substantial; it is minimal in peripheral activities. Peripherals may even
be sourced from low-cost neutral suppliers. Customers and market share will be defended fiercely because of the company's total commitment to its core businesses combined with its drive for firm survival. Using these tactics means a firm can keep pressure on the cash flow of its competitors and easily exit a peripheral business.

While most Japanese firms seem to exhibit this behaviour, it may chiefly be a function of their evolution rather than any special cultural attitude or particular Japanese way of doing business. While more research may be needed to answer this question fully, the foreign competitor needs to deal with the environment that exists. This argues for well-articulated investment and entry strategies to define an advantage based on technology, market position, and cost.

**Foreign firms and the paradigm**

Foreign firms (gaisha) are by definition outside Japan's business system and do not usually represent a threat to which Japanese firms feel they must respond aggressively. At the same time, foreign firms that are able to establish and sustain a competitive position can be very profitable because the market returns on Japanese companies are based on their overall competitive environment. Foreign firms, in contrast to Japanese companies, are usually expected to offer only their specialty products, not a full range of services. This situation allows the gaisha to keep most of their core profits without having to give much back in "service" and peripherals.

Foreign firms entering and trying to compete in an established or high-growth Japanese market without a proprietary product, technology, or service will find it difficult because Japanese competitors will sell peripheral products and services at or below cost. A Canadian competitor seeking to create a sustainable advantage in the Japanese market must not only establish a market for its product or service, it must also continue to define and influence the competitive evolution of the product to prevent imitation and the inevitable price-based competitive compulsion. This goal is achieved, along the lines of the Vernon-Krugman model, by the continuous introduction of innovations from outside Japan, provided these innovations remain an important element of the competitive environment. This strategy is necessary once market growth slows and greater price pressures
develop, particularly if Japanese competitors are then able to develop innovative process technology advantages. Coca Cola, McDonalds, Kentucky Fried Chicken, Motorola, IBM and Marlboro have all been successful using this strategy.

Foreign firms tend to lose their initial advantage in cases where emulation, substitution or process innovation by Japanese firms is relatively easy, and where outside innovations can be imitated or are competitively less important. They become much less profitable, and many are forced to exit the Japanese market and perhaps even the world market at considerable expense, since they are unable to compete with large Japanese companies prepared to give the product or service away. De facto standardization makes this result even more likely because the Japanese are excellent at imitation, volume production, and constant improvement (Imai, 1986).

The net result is that a foreign firm is usually either quite profitable or loses money. This scenario has been repeated again and again for many firms and product areas. In photocopiers, for example, prices dropped and market share shifted very rapidly as several Japanese firms entered and tried to capture the growth or establish a position once the product had been standardized. And since the Japanese will always compete on price, it is important for the foreign firm to keep its costs under control, even if it can sustain its advantage in other ways. Otherwise, the initial advantage disappears, market positions will stabilize but without foreign competitors. One way to achieve this result is by developing a close working relationship with a large Japanese company, where the Japanese partner provides service and market access while the Canadian company focuses on sustaining innovation and pursuing global market share. This is where Canada's superior access to the US market could prove to be an advantage. Software and biotechnology are two sectors where this advantage could be used, because of their economic sensitivity to the size of the user base. In these industries, simultaneously exploiting the world's two largest markets can be a source of powerful competitive advantage.

Since Japan is the world's second largest market for both software and biotechnology (National Research Council, 1992), Canadian companies with world-class technology must develop this market to remain globally competitive in these industries. If they leave the
Japanese market to other competitors, user base economics means they will fall behind globally, and eventually in Canada and the US as well. Major US and Japanese companies in these industries understand this well, which explains Merck's acquisition of Banyu and Microsoft's major localization program in Japan (Rapp 1995). For historical reasons, Japanese firms in these sectors are relatively weak and do not have the global or domestic user bases to overcome the first mover advantages and lower average costs of foreign firms. Yen re-evaluation and government policies have also worked against these firms (Baba et al., 1993; Rapp, 1995), providing a clear opportunity for Canadian firms with leading edge technology.

In biotechnology, an aging population has put fiscal pressure on the government's health program, which has led to budget restrictions. These restrictions have limited payment for new drugs and fiscal resources available to Japanese pharmaceutical firms for product development. Also, Japanese firms have little experience with the complex drug approval processes in foreign countries. In software, previous government policies have led to a fragmented industry (Anchordoguy, 1988 and 1989). Japanese firms are paid to localize and adapt foreign-packaged software rather than to develop it themselves (Cottrell, 1993; Coults, 1994; Rapp, 1995). Major Japanese computer manufacturers have offices in the US specifically designed to find and adapt innovative software to their systems and customers (American Electronics Association, 1992). This offers Canadian firms a unique opportunity (Delaney, 1994) to gain capital and access to the Japanese market. They can then expand their global user base and improve their economics and competitive position in all markets.

While this development will probably happen naturally for Canadian producers which are already large in these sectors, the situation for small and medium-size players is much less clear. These firms are usually entrepreneurial and rarely have the time or resources to ferret out opportunities in distant, unfamiliar Japan.

This information barrier suggests a possible role for Canadian governments or for partnerships between government and industry associations. But despite the potentially positive spin-offs, current budget philosophy and actual fiscal pressures are likely to reduce such subsidies or special support for business. Japan is also out of favour.
compared to China and Southeast Asia. These seem like more dynamic markets, even though a large part of that dynamism is due to the flow of resources from Japanese companies, reflecting the trade and FDI strategies explained earlier in this paper. It is important to understand that while the Japanese economy is depressed as a result of the bursting of the asset “bubble” of the late 1980s, the actual result of that collapse was a massive transfer of financial assets from Japanese financial institutions to Japanese MNCs (Zielinski and Holloway, 1991), substantially increasing their power and global independence (Rapp 1993 and 1994).

The current weakness of the Japanese government, because of scandals and other factors, has given the MNCs greater strategic flexibility. Canadians should therefore consider the Japanese nation and its companies as separate independent players. Canada’s economic interests are linked to the companies—not to the nation—and it is the strategic attention of the companies that Canadian business and policy makers must capture. Canadians might emulate the tactics of some American states who see the Ambassador to Toyota as more important than the Ambassador to Japan.

The initiative must come from the Canadian side. MNC players assigned to Canada are either too junior (but on their way up), or are older executives in the resource sections of the trading companies and banks reporting to more senior executives in New York or Tokyo. The former are in training to learn about living and working overseas and to develop their English skills. The latter are often assigned to Canada to preserve and manage the status quo which is dominated by Canada’s past raw material and energy supply relationship with Japan. Their success is all too apparent in the statistics. The decision-makers in the newer industries are elsewhere and must be sought by Canadians interested in developing these opportunities. Except for the well-known global players like Delrina and Corel, Canada does not figure prominently in the competitive strategies of large Japanese firms in these industries.

Summary and conclusions
In the industries of the future, the Canadian-Japanese economic relationship is working against the tide of history and an established infrastructure. The relationship until now has been influenced
primarily by the evolution of Japanese competitive conditions, Canadian resources and their historical interaction. Initially, Japan’s search for food, energy and raw materials created a natural interest. The Canadian reaction was favourable but cautious; a “Yes, but ...” response due to its administrative heritage of having to guard its independence from the incursions of its economically and politically powerful neighbour. Then, as the Japanese economy shifted gears from a high-growth, raw material and energy-using economy, to one emphasizing higher value-added, Japan’s patterns of trade and FDI shifted. But the Canada-Japan relationship continued down its established path, closely linked to those firms that were still processing raw materials and energy. Those firms still needed their raw materials even if they were no longer at the leading edge of Japan’s economic growth.

The problem for Canada is that these firms unintentionally define the relationship. No longer in high-growth industries, they are sensitive to price, employment and security of supply and are reluctant to shift value-added abroad. Difficulties have existed on the Canadian side as well in very large and visible projects like the Northeast BC Coal project, where lack of cost control dramatically escalated the price of coal to major Japanese steel mills; the Come by Chance oil refinery, where the project’s failure to meet its obligations at the time of the first oil crisis bankrupted Ataka, one of Japan’s major trading companies; and the Mitsubishi rapeseed crushing facility, where government regulations and intransigence meant that it remained more economical to export seed than to crush it in Canada. These examples, and others involving the Dome/Beaufort oil project in the Canadian Arctic, the C. Itoh sawmill in B.C., and the Mitsubishi pulp mill, have all become negative touchstones in the minds of Japanese executives—touchstones that limit any future investment interest they may have in Canadian natural resources, before they even consider the relative economic decline in those Japanese industries.

Despite these clear negatives from a Japanese business perspective, many Canadians seemed genuinely surprised when Mitsubishi invested in a copper smelter in Texas (Canada Japan Trade Council, 1990), even though Texans aggressively pursued the investment and the US President came from Texas. Canada must, however, increasingly compete for direct investment against such political obstacles as the
overwhelming importance of the bilateral US-Japanese relationship, lower US taxes, greater political flexibility, and other incentives. To attract frontier or technology-intensive business, Canadians must gain a better understanding of the global strategies of Japanese firms in these industries, and position themselves to take advantage of their strengths and weaknesses.

From this perspective, potential strategic interfaces between Canada and Japan include joint ventures abroad in raw material or energy development, such as Inco's project in Indonesia or the Quebec/Ontario Hydro Ventures in China, where Canadians can substitute for Americans or Europeans. These situations provide only a limited number of Canadian jobs, however. Technology-intensive industries such as software and biotechnology, where Canada is a world leader, offer better future growth opportunities because Canadians and Japanese can help each other compete more effectively. But to achieve this kind of cooperation, Canadian firms need to inventory and actively solicit such alliances. Given the user base economics of these industries, the competitive survival of these firms may depend on their access to Japan's market, even though they must continually innovate to maintain their advantage. The greatest area of potential gain is for small and medium-size firms with such technologies, but budget restraints and the high cost of doing business in Japan may limit this access to large firms.

In addition, Canada's continued dependence on raw materials, energy and food sales to Japan is bound to change the terms of trade adversely and be reflected in a constantly stronger yen, as correctly predicted by the Krugman model. A raw material-based export sector is not workable in the long term against a value-added economy like Japan's, which is based on constant process innovation. This is especially true when Japanese firms are not increasing their raw material processing in Canada. Nor can Canada force the issue.

If Canada wishes to move away from its current dependence on raw materials, it will need a more proactive strategy with the Japanese. It needs to create more cases that emulate the Delrina-Fujitsu joint venture to develop facsimile scanning software or the Corel project in multimedia. Aggressive proactive strategies represent a role change for Canada. Yet, if capturing the attention of Japanese companies is a goal, it is also the critical choice.

William V. Rapp
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