

# BRITISH COLUMBIA INDUSTRIAL DEVELOPMENT BULLETIN

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A bulletin concerned with industrial advances affecting the B.C. economy

## International Outlook JUL 10 1989

The U.S. economy is showing more consistent signs of moderating in the first quarter of 1989, as non-farm growth in GNP increased at an annual rate of 1.8%, down from 3.5% in the previous quarter. Employment growth hit a three year low in May and housing starts fell in the first three months to their lowest level in six years. Major U.S. banks lowered their prime rates 0.5% on June 5th in an attempt to attract more business.

Despite these moderating indicators, inflation took an up-swing in the first quarter, running at 5.1% in April, as energy and food costs rose steeply due to recent oil industry accidents and last year's drought. Of greater concern in the area of inflation is the decline in non-farm productivity in the first quarter, which fell at an annual rate of 1.1% at the same time unit labour costs increased 6.6%. These figures carry nasty implications for both wage driven inflation and any sustained improvements in the trade deficit.

The growth of the U.S. economy is forecast to slow to 2.7% for 1989 and around 2% in 1990.

Japan's trade surplus plunged 27% in May, which was quite timely given the American's recent trade accusations.

However, the surplus reduction was partly the result of the recent vitality of the U.S. greenback, as trade figures are predominantly U.S. dollar based. Consequently, while the stronger dollar may eventually stimulate Japanese exports, the initial effect is to reduce the size of yen based trade figures. It has been suggested that Japan may, in fact,

be very quick to capitalize on the weaker yen as many of its companies have improved their productivity in adjusting to the previous strong yen era.

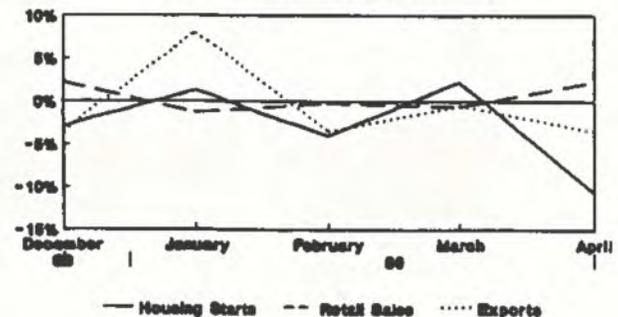
South Korea has seen its rocketing economic growth slow to 4.8% in the first quarter of 1989, the lowest quarterly rate in eight years. Poor export performance, due to a won that has appreciated 19% since Jan. 1988, and industrial unrest have been cited as the major reasons. However, the government is confident that the target rate of 8% will be reached by year's end.

## Canadian Outlook

Signs of moderation are also evident in Canada as gross domestic product fell 0.3% in March, the first such decline since October 1986. Averaged over the first quarter, GDP did however manage an increase of 0.8%.

Factors contributing to the March decline included declines in industrial construction, exports and cooling consumer spending.

### Select Factors in Canadian Economy



% change, s.a.



Industry, Science and  
Technology Canada

Industrie, Sciences et  
Technologie Canada

### What's inside

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Business investment will remain the engine of growth within the Canadian economy as the absence of inventories has left firms in a good financial position late in the business cycle. Commercial sector construction remains strong, led by the service industries, and expenditures on machinery and equipment to modernize operations remain buoyant. National GDP is forecast to grow at about 3% in 1989, down from the 4.5% experienced in 1988.

Inflation remains a concern as the CPI increased to 5% in May from 4.6% in April, due largely to the Federal Budget's taxes on alcohol, tobacco and gas. Inflation will likely average just under 5% by year end.

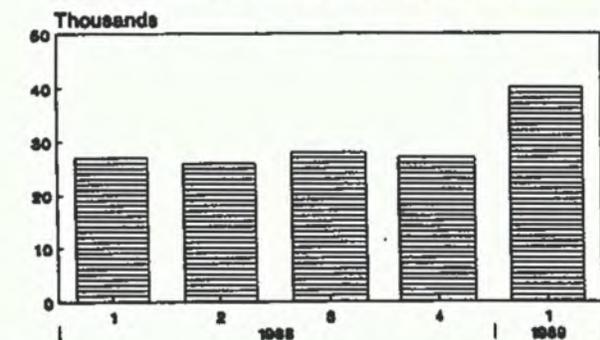
## Provincial Outlook

The continued decline in the commodity price index, due to lower North American housing starts and base metal users running leaner inventories, suggest harder times for B.C.'s resource industries.

Interior saw mills, in particular, may be facing temporary closures as many were previously operating at break-even price levels.

However, growth is evident in other areas as seasonally adjusted dwelling starts increased a whopping 35.5% in the first quarter. April and May figures, while somewhat lower than those in the second quarter, are still healthy. Strong employment, wage increases and net in-migration are the primary explanations.

**B.C. Housing Starts  
(Annual Rates, By Quarter)**



Urban areas, seasonally adjusted

Residential construction will likely slow in the latter half of the year as the effects of high interest rates

work through the system and the economy begins to slow. Housing starts may however pick up in the first quarter of 1990 as various government housing policies stimulate activity. Whether this construction will cause a housing glut will depend largely on net migration into B.C.

Sustained demand for pulp and increases in pulp and paper capacity will drive growth in B.C.'s manufacturing sector. Provincial tourism continues to look good, particularly in the cruise ship industry. Strong pulp exports and recovery in western grain production should benefit the transportation and storage sector.

All in all, B.C. is expected to perform somewhat better than the nation in 1989 as growth is forecast to be in the 3.2% to 3.5% range. However, our rate of inflation will rise to around 5%, comparable to that for Canada.

## Canada's R & D Outlook

Canada's expenditures on R & D, currently ranked an uninspiring tenth among OECD countries, are unlikely to be improved by corporate Canada. The Conference Board's survey of corporate R&D intentions indicate spending growth will moderate significantly in 1989.

Corporate sector expenditures on R&D are estimated to increase by 4.1% (unadjusted for inflation) in 1989, following increases of 7.2% and 7.8% in 1987 and 1988.

Over the medium term, even using modest inflation projections, real R&D expenditure growth will be less than 1% annually. This is unacceptable performance vis a vis that of other OECD countries and other trading partners.

Companies surveyed indicated that a shortage of financing, federal government policies and a lack of skilled R&D personnel were the three most significant factors adversely affecting R&D programs.

## Smoke Lemons: Wake Up & Mellow Out

In an attempt to carve out an innovative niche in the smouldering North American tobacco market, the Lorillard company has developed cigarettes that smell and taste like lemons.

On a related front, Japan's Shimizu Construction Co. has been investigating human response to various fragrances and found lemon had a wakening effect while reducing both tension and anxiety.

The new cigarettes are reportedly targeted at the feminine market, which tends to be more embarrassed by the odour emitted by regular cigarettes.

If the new lemon smoke catches on, the industry may be hoping that smoking and its second hand effects might become partially beneficial. Improving productivity and reducing stress around the work place and making night clubs dynamically tranquil places to be. Don't hold your breath.

## Where the Manufacturers Roam

A number of articles recently published by the Stanford Research Institute suggest that labour costs are of declining importance in considering where to locate many of today's manufacturing facilities.

As manufacturing processes become more refined, through the use of innovations such as flexible manufacturing, computer integrated manufacturing and just-in-time manufacturing, direct labour costs have come to represent a declining proportion of total product costs.

At the same time quick client response has become a far more relevant competitive tool. Customer proximity has resulted in companies moving their manufacturing operations back onshore to overcome costly air transport and unreliable sea transport problems.

## Cut-out Batteries

While B.C.'s Moli Energy is continuing its work on rechargeable lithium power systems, an Economist magazine article recently described a development which may increase the competition in the lithium battery field.

The United Kingdom's Atomic Energy Authority has been conducting some industry sponsored research on solid state batteries for a number of years. Having developed a battery with lithium electrodes and an electrolyte made of plastic film with lithium dissolved in it, the battery's performance was found to be unsatisfactory.

The battery was then improved by making the

plastic film very thin and thereby reducing the distance the ions had to travel. Next, the researchers developed a plastic which allowed the ions to move more freely than was previously possible.

The result is a rechargeable battery that is very thin and pliable. It can be cut like paper to fit into the low profile of a portable computer or rolled up and incorporated in the handle of a cellular phone. The battery's high power to weight ratio may even make future electric vehicles a viable proposition.

## Asian Investment in B.C. Tourism

Purchases of major hotels in Vancouver, Whistler and Harrison Hot Springs by Asian investors has brought some concern as to the likely impacts on the province's tourism industry. Speeches given by Nami Thiyagrathnam, of Price Waterhouse, and Yasushi Ogawa of IPEC Inc. at the recent Tourism 2000 conference addressed this concern.

Before considering the reasons for, and impacts of, Asian investment in B.C.'s tourism industry it is important to put this investment into proper perspective. Last year the United States and Europe accounted for 84% of the total foreign investment in Canada, Japan accounted for 4% or \$640 million. Of the total inflow of foreign investment, the portion that was tourism related was only 4.2%.

Hotels are seen as attractive investments by Asian investors because they: offer an immediate and continuous cash flow, are a visible investment, are usually well located and thus likely to hold their real estate value, and, overall, are seen as a safe long term investment with an acceptable return.

Investment in B.C. in particular is seen to be attractive because of its: safety and stability, Pacific Rim location, scenic beauty, multicultural society, relatively low cost and potential for business opportunities. British Columbia has also become an increasingly popular destination for Japanese tourists as the region's amenities are coupled with a warm and hospitable people. In contrast, Japanese vacations to the U.S., Hong Kong and Europe have, in some instances, suffered from experiences ranging from mistreatment by sales clerks to actually being robbed.

Some of the immediate impacts of Asian investment in tourism will be changes to the market

mix, customer base and quality standards within the hotels as the new owners look to attract Asian travellers. On the human resource side, there will be a corresponding demand for employees who can speak Cantonese, Japanese, Mandarin, Taiwanese and Korean in all service roles.

Room rates will likely increase as they are brought into line with other international destinations, raising to \$130 - \$140 in downtown Vancouver by 1992. Asian owned hotels will also utilize sophisticated statistical techniques to measure quality and forecast room rates and occupancy trends, in order to establish and maintain their competitive position.

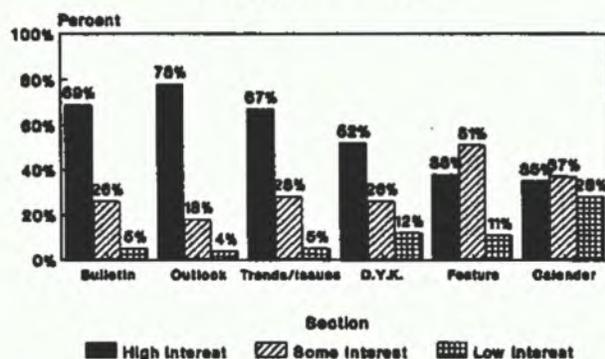
Asian investment will mean increased competition in B.C.'s tourism industry, but it will also bring greater development of the industry's infrastructure and greater diversity to the client base. Skill levels will improve and the tourism product overall should become more competitive.

## Readership Survey

The ballots have been tabulated and the results indicate that there is a high degree of interest in the B.C. Industrial Development Bulletin. The graph below shows the results of the survey, which suggest that interest is highest in the economic outlook and sectoral trends and issues sections. Many of you also included recommendations as to how the Bulletin might be improved. We have attempted to incorporate a number of these suggestions in this issue and hope to incorporate more in the future.

Your participation and comments were very much appreciated and we invite any additional feedback whenever you feel so moved.

**Level of Interest  
( by percentage )**



## Did You Know ?

Reichmann family's net worth \$9 billion  
Jim Pattison's net worth \$500 million

Proportion of new Canadian businesses started by women: 66%

Proportion of women business owners who are successful in first five years of operation: 47%

Proportion of successful men: 25%

Office leasing rates in:  
Tokyo \$186/sq.ft.  
London \$152/sq.ft.  
New York \$47/sq.ft.  
Toronto \$39/sq.ft.  
Vancouver \$30/sq.ft.

Proportion of Canadians who feel forest preservation is more important than ensuring jobs: 64%

Quantity of B.C. farmed salmon in 1986: 400 tonnes  
1988: 6,000 tonnes  
2000 (forecast): 30,000 tonnes

Odds that you will appear on the Johnny Carson show: 1:490,000

Japan's per capita income as percentage of America's:  
1968: 30%  
1988: 120%

Fatal car accidents per million vehicles in 1985:  
United States: 255  
Canada: 287  
India: 4,100

Amount of water used by each Canadian annually: 1,509 cubic litres  
International rank by use: 2 (after U.S.)

Amount of garbage Canadians generate daily: 42,500 tonnes

Proportion of Quebec sewer systems that discharge directly into St. Lawrence: 80%

Amount of hazardous waste produced in Canada annually: 5 mil. tonnes  
% entering environment untreated: 80%

## Innovation: Japan vs North America

Dr. Roland Schmit, Chairman of the U.S. National Science Board, recently delivered a paper suggesting that the Japanese *style* of adaptive technological innovation partly explains their phenomenal economic growth. However, it is interesting to note that while North American firms are being pressured to develop the adaptive capabilities of the Japanese, the Japanese are themselves being pressured to undertake more pioneering research, that has traditionally been done in the West. In considering the responses to these pressures it is suggested that the Japanese may have the harder row to hoe.

While North American companies have historically been very successful in introducing products based on breakthrough technology, Japanese firms have been extremely successful in creatively adapting western breakthroughs into subsequent product generations, which are manufactured in the most cost effective manner possible. Examples abound in every North American household and office: computers, televisions, VCRs and automobiles.

The Japanese style of innovation is centred in its departure from Western companies in the areas of: **design, development and manufacturing.**

In the west, the design phase of the innovation cycle focuses on the features and performance of the product much more than the process by which it will be manufactured. There is also a strong propensity in the west to add features, improve performance and increase the complexity of the product. In contrast, Japanese designers are oriented more toward simplicity. Cost minimization is an explicit objective and products are designed to easily incorporate successive cost reduction advances.

In developing new products, Japanese firms have not traditionally been prominent in any pioneer technology but they have excelled in the area of evolutionary technology. Japanese companies have used this **adaptive creativity** very effectively as a competitive tool, often countering the introduction of new generation products with the best that can be done with prior state-of-the-art technology. The lower cost of the known technology is thereby used to offset the higher performance of the breakthrough technology.

In tailoring product developments to consumers' demands, the Japanese generally allow customer reactions to existing products tell them what

changes and improvements are required. This trial and error approach to product development is made possible by Japan's manufacturing processes. Long renowned for their flexible and just-in-time manufacturing capabilities, Japanese companies are able to introduce a product, produce it with variations, make alterations or take it off the market without causing unwanted inventories or significant disruption to their production facilities.

However, just as Japan's success has put pressure on North American industry, countries like Taiwan, Korea, Singapore and Hong Kong have emulated Japan and increased the competition in its traditional areas of strength. Moreover, as Japan has emerged as a leading economic power there has been international pressure for it to contribute more to the global pool of knowledge derived from basic, or frontier, research.

Basic research in most countries revolves around government participation and university involvement. In Japan, the technology policy that has overseen its rapid development has been characterized by the government refraining from direct intervention and instead offering information and other influences to guide the private sector. While some Japanese companies are dabbling in basic research, the indirect relation between this activity and revenue generation suggests that such efforts are unlikely to be enough. Hence, it would appear that Japan's government may have to adopt a more interventionist role.

Japan's universities may also have to undergo a transformation. A recent Economist article suggests that the curricula at most Japanese universities still encourages students to learn by rote and that professors are still promoted according to seniority rather than by their accomplishments.

Evidence that changes are required in Japan if it is to undertake more basic research is shown by the fact that the share of R&D spending devoted to basic research actually declined in the first half of the 1980's from 15% to 13%. Additionally, Japan still produces less than 9% of the world's scientific literature as compared to the United States' 35%.

North American industry could make huge competitive gains if it **combined** the adaptive philosophies of the Japanese with their established strength in primary research. An approach which struck such a balance may indeed be unbeatable.

## Canada's Melting Pot of Opportunities

The Secretary of State of Canada recently produced an informational package on the benefits and opportunities associated with immigration and good race relations.

Canada's population is undergoing some significant changes. Our population is aging rapidly. In 1971, 14 persons over the age of 65 were supported by 100 persons aged 18 to 64. If immigration levels are kept low, by 2011 the same 100 persons will have to support 28, or double the number of pensioners.

This shift is partly the result of the baby-boomers moving through the system but also because Canada's fertility rate is not sufficient to maintain our current population. This declining population has implications not only for our social system but also for the labour pools that supply our industries. Estimates are that about 200,000 immigrants per year are required to sustain both our population and economic growth.

**IGRASS'89 - 12th Canadian Symposium on Remote Sensing, July 10 - 14, 1989, University of British Columbia, Vancouver, British Columbia.** The meeting will survey the full range of applications in all aspects of resource and environmental management. Contact: (604) 681-5226.

**Looking to 2020, August 8 - 10, 1989, Vancouver Trade and Convention Centre, Vancouver, British Columbia.** Conference will examine many of the hottest issues facing the aerospace industry as it heads into the 21st century. Cost: \$350, Contact: Keith McPherson (604) 684-9455.

**Airshow Canada, August 9 - 13, 1989, Abbotsford International Airport, Abbotsford, British Columbia.** Beginning a few days before the Abbotsford Air Show, this tradeshow will attract exhibitors from major aerospace companies all over the world. Contact: (604) 852-4600, Fax (604) 852-6093.

**Time Management, August 22, 1989, Holiday Inn, Vancouver, British Columbia.** Seminar is designed to help you develop a customized time plan that will help you become more organized; reduce stress; increase productivity; and work smarter. Cost: \$75, Contact: Federal Business Development Bank (604) 666-7850, Fax (604) 666-1956.

**Tom Peters: Developing Yourself and Others, Sept. 14, 1989, Queen Elizabeth Auditorium, Vancouver, B.C.** Program highlights include how to create niches; the secrets of quality; the new shape of success; and how to see opportunities. Cost: \$125 before July 15, \$150, Contact: (604) 666-7703.

Shrinking immigration from traditional regions such as Europe implies that more immigrants will come from non-traditional countries, predominantly those in the third world. Consequently, the proportion of visible minorities will continue to grow in the future.

While this growing portion of our population offers a solution to labour shortages it also represents a growing market for new goods and services; 15% of Canada's population will be visible minorities by 2011. It therefore behooves Canadian companies to obtain a better knowledge of these minorities' values, tastes and consuming habits to both attract them as employees and target them as customers.

A company that can successfully adopt such an ethnic perspective will undoubtedly be more competitive domestically. Moreover, the transfer of the lessons learned to export markets would similarly improve the same firm's international competitiveness.

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