

highlights

a weekly digest of recently released British Columbia statistics

Labour Force

- **British Columbia's unemployment rate grew 0.3 of a percentage point between March and April, rising to 6.9% (seasonally adjusted).** The fall in the number of employed by over 10,000 people (-0.5%) outweighed the effect of a shrinking labour force (-0.2%). The participation rate in the labour force slipped from 64.6% in March to 64.4% in April.

Job loss was heaviest in the service sector (-0.6%), particularly health and social services (-3.1%) and accommodation, food and beverage services (-3.6%). Employment also fell in the goods sector (-0.1%), with agriculture (-3.4%) and other primary industries (-7.0%) experiencing the largest drops. The construction sector showed one of the largest increases in employment with a 2.2% boost.

Source: Statistics Canada

- **Regionally, the Thompson-Okanagan experienced the largest year-over-year decline in its unemployment rate (-2.3 percentage points, 3-month moving average) to 9.1% while the North Coast and Nechako region had the largest increase (4.6 pp 3MMA) to 11.6%.** Mainland/Southwest (6.0%) and Northeast (5.5%) both had unemployment rates (3MMA) below the provincial average. All other regions recorded unemployment rates in excess of 9.0%. *Source: Statistics Canada*
- **Canada's unemployment rate was unchanged, remaining at 7.0% (seasonally adjusted).** Across the country, Atlantic Canada underwent the most fluctuation in unemployment rates, with Prince Edward Island's rate swelling by 2.1 percentage points and Newfoundland's also growing, by 0.7 of a point. On the other hand, New Brunswick's (-1.2 percentage points) and Nova Scotia's (-0.3 percentage point) rates fell. Ontario

(-0.2 percentage point) was the only other province with a rate decline.

Source: Statistics Canada

The Economy

- **The value of building permits issued by BC municipalities fell 7.2% in March (seasonally adjusted).** This followed a 9.7% increase in the previous month. The decrease in March occurred despite a 4.4% rise in the value of residential permits, which was more than offset by a fall (-18.2%) in the non-residential sector. Two of the three components of the non-residential sector experienced a decline, following increases in the previous month. The value of commercial permits decreased 33.3%, while institutional permits fell 15.2%. However, the value of industrial permits rose for the second consecutive month, increasing 73.7% in March. Nationally, the value of building permits fell 11.5%, as declines were posted in 6 of the provinces and territories. The biggest decreases were seen in Yukon (-50.7%), New Brunswick (-39.2%) and Ontario (-21.5%).

Source: Statistics Canada

Housing

- **The number of housing starts in British Columbia increased 19% in April (seasonally adjusted), following two months of declines.** The rise was mainly due to an increase in multiple housing construction in Greater Vancouver, which more than offset a fall in the number of single detached housing starts. Starts in six of Canada's provinces, including BC, also rose. The largest increases were seen in Newfoundland (+140.0%) and Nova Scotia (+104.0%). Nationally, housing starts increased 3.1%.
- **The New Housing Price Index shows that new housing prices in Vancouver fell slightly (-0.2%) from March 2000 to 2001.** However, in Vic-

Source: Canada Mortgage & Housing Corporation

Did you know...
British Columbia imported almost \$6 million worth of lemons and limes in 2000.
That's a lot of lemon juice.

toria there was a slight increase in the index (0.1%). The index indicates that prices have dropped significantly for both Vancouver (to 83.2% of 1992 prices) and Victoria (to 72.3% of 1992 prices) over the last decade. For Canada as a whole, there was a 2.6% year-over-year increase in prices of new homes. The Ottawa-Hull area led the way with a whopping 14.6% leap in housing prices.

Source: Statistics Canada

Adult Learning

- **In 1997, 31.9% of British Columbians enrolled in adult education and training activities, the highest rate of any province.** Alberta (31.1%) and Ontario (30.8%) had the next highest participation rates, while Newfoundland (18.6%) and Quebec (20.6%) were at the other end of the scale. However, the provinces with the lowest participation provided the most training per participant. The average training time per participant was 307 hours in Newfoundland and 234 hours in Quebec, but only around 200 hours in BC, Alberta and Ontario. The Canadian average was 209 hours. Between 1991 and 1997, participation in training fell by 1.2 percentage points (pp) for the country as a whole. Nova Scotia (+5.9 pp) and New Brunswick (+3.9 pp) had the largest increases, while Quebec (-6.8 pp) and Alberta (-4.7 pp) provided training to a diminished share of their adult population. BC's participation rate increased by 1.4 percentage points over the six-year period.

Within BC, participation in job-related training was almost twice (23.5%) as popular as personal interest courses (12.7%). The higher a person's educational level, the more likely he or she was to enrol in adult education programs, with university graduates four times more likely to receive further education than those who did not complete high school. Women (33.9%) were more likely to participate in adult training than men (29.8%) and participation rates declined with age from almost half of 17-24 year olds to 7.4% for seniors. *Source: Statistics Canada*

Farm Family Income

The number of farm families in British Columbia dropped by 7.2% from 1997 to 1998. There were 7,570 farm families in the province in 1998. The largest declines were among grain and oilseed farming operations (-18.6%), cattle (-12.7%) and hog farmers (-12.5%). However, farm

families with cattle operations still make up the largest proportion of all farm types (32.6%).

Source: Statistics Canada

Adventure Travel

- **The number of adventure travel operations in Canada doubled between 1993 and 1999, rising from 669 to 1,336.** These organizations took in \$362 million in revenues in 1999, more than double the value six years earlier. Guided (52%) and self-guided (22%) adventures were the biggest source of earnings. More than half (54%) of the people participating in this activity were males between the ages of 20 and 44. Of the 4 million adventure traveller days in 1999, 1.7 million involved international tourists, half of whom came from the US.

Adventure travel is big in western Canada, where the opportunities for this type of travel may be greater than in other parts of the country. In 1999, BC, Alberta, Saskatchewan and Manitoba accounted for 61% of total Canadian revenues. Despite having a much larger population share, Ontario and Quebec accounted for just 28% of the total.

Adventure travel includes activities such as scuba diving, whale watching, rafting, spelunking and hang gliding.

Source: SC, The Daily

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The British Columbia Input Output Model

What is an Input Output Model?

An input output (IO) model is a way of understanding and estimating how economic changes in one industry can affect other industries. For example, changes in lumber sales will have immediate (direct) effects on the sawmill industry, but also less immediate (indirect) effects on the logging industry, the transportation industry, and any other industries which provide inputs to the sawmill industry. British Columbia has had an IO model since the mid-seventies—the current model is based on 1996 industrial data collected by Statistics Canada and provided to BC Stats under formal data sharing agreements.

The model database is comprised of information for 243 industries and 679 commodities and consists of three arrays. The USE array specifies the inputs to each industry (what it buys) expressed in dollar values for the 679 commodities. For example, various grains, hay and straw are inputs to the Livestock Farms industry, but so also are electric power and accounting services. Wages and salaries paid directly to labour is a significant input to virtually every industry. The MAKE array specifies the outputs of each industry (what it makes), also expressed in dollar values for the 679 commodities. Examples here would include the coal made by coal mines, the fish products made by the fish products industry, and the meals made by the food and beverage services industry. The FINAL DEMAND array specifies the values of the 679 commodities taken out of the economy by “final users”. Final users include export markets, BC residents, and capital expenditures by business and government. The FINAL DEMAND array also has information on the

total value of imports for each of the 679 commodities.

An IO model is called that because it looks at the economy in terms of inputs and outputs and, in fact, requires that for each industry

Inputs = Outputs

(or, in more familiar terms,

Expenditures = Revenues

where the former includes profits, or return on investment). Moreover, for each of the 679 commodities,

$$\text{BC Production} + \text{Imports} = \text{Total Use} + \text{Final Demand}$$

What's it Good For?

The simplest application of the provincial IO model is to estimate the economic impacts of a change in the final demand for some commodity produced by the economy. For example, suppose that there is an increase in exports of paint. Each of the industries that make paint will increase production accordingly. To do this, they will each purchase more of the inputs they require. Industries which make those inputs will increase production accordingly. To do so they will need to buy more of their inputs. And so on. The model does all of these calculations in the blink of an eye and provides estimates of the increased outputs for each industry affected by the change. What's more, it is able to provide estimates of the changes in GDP, employment, and taxes paid for each affected industry.

In the same way, the model can estimate the impacts on the economy of entire sets of commodity demand changes. An example of this might occur with an increase in tourist spending. Tourists typically spend money on accommodation, food services, transportation, recreation and souvenirs. The start-up of a new industry might also require analysis of the changes in demand for a variety of goods and services simultaneously.

The BC IO model has been used to estimate impacts associated with research facilities, industrial operations, convention centres and land use planning discussions. Access to the services of the BC IO model is available to the public, the consulting community and other government departments on a cost-recovery basis. Typical charges can be anywhere from \$1,000 to \$15,000 depending on the number of model runs and the amount of supporting analysis required. Anyone wishing further information about this service should contact Garry Horne at 387-0364.

Open and Closed Models

The type of model described previously is an "open" model in the sense that there is no feedback from any of the end users to generate new demand. (As noted earlier, the final users are export markets, capital expenditures by business and government, and BC residents.) But when there is increased demand (say, from increased export sales), the resulting increased production means that BC residents will earn more and be able to spend more, and domestically produced goods and services will also experience increased demands. The simplest closed version of the IO model takes this feedback into account and estimates what we call "induced impacts" resulting from the increased spending by BC residents.

What produces the induced impacts is the change in personal incomes which result from the project in question. But that change clearly depends on what the situation was before. It may be that the new income flows entirely to individuals who had no previous income; alternatively, the income changes may just mean that individuals who previously were living on employment insurance or other forms of income assistance will now be paid because of the new jobs. We refer to these two cases as the no-safety-net (NSN) and safety-net (SN) cases respectively, and typically estimate the induced impacts under both extreme assumptions. The actual situation will always be somewhere between these two extremes.

But all I really Want is a Multiplier...

Standard economic multipliers are defined as the ratio of the total economic impacts associated with a given project or policy to the direct expenditure. The IO model is not full of multipliers. What generally happens is that we run the model to answer a particular impact question. If you then take the answer and divide it by the question, the result will be a "multiplier" appropriate for that particular situation. When the same question gets asked for a similar situation, a simpler (and therefore, cheaper) alternative may be to apply the multiplier rather than rerun the model

To allow for these simpler, cheaper, do-it-yourself analyses BC Stats is preparing an update to the publication *Provincial Economic Multipliers and How to Use Them*. While not appropriate for use in all situations, the multipliers in this publication should permit the accurate estimation of provincial impacts in many common situations. This publication should be available by the end of April.

The table below provides a few employment multipliers extracted from the publication. The figures in the table are the number of person-years of employment resulting from \$1 Million of revenue in the specified industry. As noted earlier, the induced impacts depend on the change in personal incomes which result from the direct effects. SN stands for Safety Net, and means that the alternative against which these impacts are measured is that provided by employment insurance payments or other income assistance.

Selected BC Employment Multipliers			
	Direct	Indirect	Induced SN
Mining	3.2	2.6	1.3
Construction	9.4	4.3	1.6
Manufacturing	5.3	4.0	1.2
Retail Trade	20.3	3.4	2.0
Business Services	13.8	3.8	2.1

The estimates for Retail Trade should be treated with caution. If the retail trade margin is 10% then it takes \$10 Million in retail sales to produce \$1 Million of revenue for the Retail Trade industry.

IO and Contributions to the Economy

There are many ways to look at the economy and at the contributions that various industries make to it. The most straight-forward of these is based on some standard industry classification scheme ("SIC" or "NAICS"*) and assigns GDP or employment or some other measure of activity to each identified industry. (See the February 2001 issue of Business Indicators for an excellent introduction to BC's economy from this perspective.)

The IO model provides an alternative way to look at and understand those contributions. From this perspective the final demands are what drives the economy. Intermediate demands depend on the final demands and the input output allocation procedure assigns the activities that meet intermediate demands to the industry which satisfies the final demand. Thus, for example, the export of lumber leads to an intermediate demand for raw logs so the part of the logging industry that meets that demand is assigned to the sawmill industry. In the context of this example, the sawmill activity that exports its products is called a "final demand impact" and the logging activity which provides raw materials to the sawmill is an "indirect impact".

This way of looking at the economy is not necessarily better than the simpler alternative, but it may be more useful from a policy perspective because it takes into account the linkages between industries that exist in the economy and does not regard each industry as a separate completely independent entity.

A forthcoming BCBI article will look at the BC economy from an input output perspective.

* For many years Statistics Canada has promoted the use of SIC (Standard Industrial Classification), but there is now a transition underway to a more modern classification scheme called NAICS (North American Industrial Classification System).

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BC at a glance . . .		
POPULATION (thousands)		% change on one year ago
	Jan 1/01	
BC	4,077.4	0.7
Canada	30,714.7	0.9
GDP and INCOME		% change on one year ago
<i>(BC - at market prices)</i>	1999	
Gross Domestic Product (GDP) (\$ millions)	118,783	4.2
GDP (\$ 1992 millions)	104,323	2.1
GDP (\$ 1992 per Capita)	25,899	1.3
Personal Disposable Income (\$ 1992 per Capita)	16,700	0.0
TRADE (\$ millions)		
Manufacturing Shipments (seas. adj.) Dec	3,155	-4.9
Merchandise Exports (raw)	n/a	n/a
Retail Sales (seasonally adjusted) Feb	3,113	6.7
CONSUMER PRICE INDEX		% change on one year ago
<i>(all items - 1992=100)</i>	Mar '01	
BC	113.3	0.9
Canada	115.6	2.5
LABOUR FORCE (thousands)		% change on one year ago
<i>(seasonally adjusted)</i>	Apr '01	
Labour Force - BC	2,107	1.2
Employed - BC	1,961	1.2
Unemployed - BC	145	0.5
		Apr '00
Unemployment Rate - BC (percent)	6.9	6.9
Unemployment Rate - Canada (percent)	7.0	6.8
INTEREST RATES (percent)	May 9/01	May 10/00
Prime Business Rate	6.50	7.00
Conventional Mortgages - 1 year	6.70	7.90
- 5 year	7.50	8.55
US/CANADA EXCHANGE RATE	May 9/01	May 10/00
<i>(avg. noon spot rate)</i> Cdn \$	1.5404	1.4957
US \$ <i>(reciprocal of the closing rate)</i>	0.6500	0.6694
AVERAGE WEEKLY WAGE RATE		% change on one year ago
<i>(industrial aggregate - dollars)</i>	Apr '01	
BC	650.42	2.3
Canada	634.96	3.7
SOURCES:		
Population, Gross Domestic Product, Trade, Prices, Labour Force, Wage Rate } Statistics Canada		
Interest Rates, Exchange Rates: Bank of Canada Weekly Financial Statistics		
For latest Weekly Financial Statistics see www.bank-banque-canada.ca/english/wfsgen.htm		

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