BRITISH COLUMBIA

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highlights

a weekly digest of recently released British Columbia statistics

High Technology

- **British Columbia s high technology sector had revenues of $5.1 billion, and contributed $2.4 billion to BC s gross domestic product (GDP) in 1995.** The sector accounted for just under 3% of the province's current dollar GDP. Since 1988, the GDP generated by the high technology sector has increased 67%, more than double the growth rate for the economy as a whole (29%).

  Shipments of goods produced by the high technology sector rose 23% in 1995, to $1.2 billion. Just under half ($563 million) of these goods were exported to other countries. Computers and telecommunications products were the most important high technology exports, accounting for $272 million of the total. Computer integrated manufacturing products were ranked second, with exports of $89 million in 1995.

  High technology industries employed an estimated 41,130 British Columbians in 1995. Employment in the sector has increased 51% since 1988, two-and-a-half times the 20% employment growth for all industries during this period. *Source: BC STATS*

- **Service industries dominate the province s high technology sector.** Of the 5,116 high technology establishments in BC, 3,878 were in the service sector, most of which were engineering (1,546) and computer (1,365) service establishments. High-tech manufacturers, such as producers of electronic equipment, aircraft, and instruments, were the next largest group (1,238). There were 824 establishments providing scientific and technical services, and 143 medical and health laboratories in the province in 1995. *Source: BC STATS*

- **BC s high technology industries are concentrated in the Mainland/Southwest and Vancouver Island/Coast regions of the province.** Two-thirds of the province's high technology establishments were located in the Mainland/Southwest region in 1995, while another 16% of establishments were found in Vancouver Island/Coast. Thompson/Okana-gan was the location for 9% of establishments, with the remaining 8% scattered throughout the rest of the province. *Source: BC STATS*

Tourism

- **Hotel, motel and other accommodation revenues declined 5.5% (seasonally adjusted) in January, after increasing in the previous two months.** The decrease in room revenues was largely due to weakness in the Mainland Southwest (-8.3%) region, which accounts for about half of the province's total room revenues. However, revenues were also down in the Thompson/Okanagan (-1.3%), Kootenay (-10.0%), and Northeast (-14.2%) regions. Accommodation providers in the Vancouver Island/Coast region bucked the trend, as revenues rose 8.1%. Room revenues were up in the Cariboo (+3.1%) and Nechako (+0.6%) regions, and unchanged from the previous month in the North Coast region. *Source: BC STATS*

The Economy

- **New motor vehicle sales in the province continued to improve in April.** The number of new cars, trucks and vans sold in British Columbia increased for the fourth consecutive month, regaining some of the ground lost in

Report

The underground economy

Did you know...?
770 workers are injured every day in BC, and two workers are permanently disabled every hour. Three workers are killed on the job each week.

1996. New vehicle sales were up 24.5% over April 1996, and year-to-date sales were 16.8% higher than in the first 4 months of 1996. Sales of vehicles manufactured overseas continued to recover, increasing 50.5% over the previous April. North American-manufactured vehicle sales rose 16.7%.

Nationally, new vehicle sales were up 29.0% from April 1996, with the strongest increases recorded in Alberta (42.9%) and New Brunswick (41.2%). Sales rose in all parts of the country except Prince Edward Island, where they dipped 6.7% in April. *Source: Statistics Canada*

- **Canadian capacity utilization rates increased for the third straight quarter in the first three months of 1997, with industries operating at 85.0% of their full capacity**. This was only marginally lower than the most recent peak of 85.3% reached in the 4th quarter of 1994, but remained well below the pre-recession peak of 86.8% in 1988. Increased consumer and export demand, construction activity, and investment in machinery and equipment all contributed to production growth in the first quarter. In the manufacturing sector, capacity utilization rose 1.1 percentage points to 86.2%. Utilization rates also climbed in the construction sector (2.3 points, to 82.0%), but were down in forestry (-4.4 points, to 75.6%), mining (-1.4 points, to 86.6%) and utilities (-1.1 points, to 82.4%). Capacity utilization rates are measured as the ratio of an industry's actual output to its estimated potential output, based on its capital stock. *Source: Statistics Canada*

Housing

- **The cost of new housing in British Columbia s two largest cities continued to fall in April.** Vancouver's new housing price index was 2.1% lower than in April 1996, while the index for Victoria was down 3.8%. The cost of new housing has been on a steady downward trend at both the national and provincial levels since early 1994, but the rate of the decline has moderated in recent months. Nationally, the new housing price index rose 0.8% in April, after edging up 0.2% in the previous month. This was the second consecutive annual increase, suggesting that the downturn in Canadian new home prices during the last three years may finally be reaching an end. *Source: Statistics Canada*

- **Housing starts in urban British Columbia surged ahead in May, increasing 51.2% (seasonally adjusted) over the previous month.** BC was largely responsible for the 5.5% increase at the national level, as housing starts were down in most other parts of the country, declining 16.7% in Atlantic Canada, 5.6% in Ontario, and 4.2% in the Prairies. Quebec (+4.7%) was the only other region of the country where housing starts increased in May.
Source: Canada Mortgage and Housing Corporation

Job Sharing

- **In 1995, about 27,000 British Columbians participated in job-sharing arrangements.** Job-sharers accounted for about 9% of the 300,000 paid workers in the province who were employed part-time. The national average was 8%. Quebec (11%) had the highest job-sharing rate in the country, with a slightly lower rate in Ontario and the Prairies (both at 7%).

Of the 171,000 Canadians in job sharing arrangements in 1995, 84% were women. More than half of job sharers were 35 and over. Job-sharers were more likely than other workers to be university educated, employed in professional occupations (especially teaching and nursing, which made up 25% of all job sharing occupations), and to have children at home. Shared jobs tended to be permanent and unionized, and offered more benefits and higher pay than regular part-time positions. One in five job sharers had worked in their job for more than ten years, compared to one in ten regular part-timers.
Source: Statistics Canada

Health

- **In 1994/95, 8% of British Columbians scored high on a test of psychological well-being, which measures the extent to which life events are comprehensible, challenges are manageable, and life is meaningful .** Quebec was the only province with a lower percentage of "happy" people. Nationally, 9% of Canadians scored high on the test. The happiest Canadians lived in PEI.
Source: Provincial Health Officer s Annual Report, 1996

For data originating from Statistics Canada: data sourced to Statistics Canada has been retrieved from CANSIM, the agency s electronic database; otherwise the source is identified as SC plus the publication name or catalogue number.

The Size of the Underground Economy

Originally published in *BC Business Indicators, September 1994*. A subscription is $60/year (plus GST).

Introduction

In 1994 Statistics Canada released a study on the underground economy[1], a topic which has generated considerable interest in recent years, especially since the introduction of the Goods and Services Tax (GST) in January 1991. There have been a number of studies on the size of the hidden or underground economy in Canada, with some suggesting that underground transactions amount to as much as 25% of Gross Domestic Product (GDP). The studies use a range of methodologies, as well as different definitions of what is included in the underground economy. The Statistics Canada study calculated upper limits for each of the components of the underground economy and concluded that in aggregate its maximum size is 4.2% of GDP.

Estimates for Canada

The studies which have found that the size of the Canadian underground economy is in the 15-25% range are mainly based upon an approach which uses a relationship between the stock of money in the economy and the level of activity in the underground economy. The definition of the underground economy used in these studies includes both legal and illegal activities.

The Statistics Canada study, on the other hand, uses a direct approach, in which for each income and expenditure component of GDP the maximum understatement due to unrecorded activity is determined, based on knowledge of the sources of information and statistical methods used in producing the National Accounts. The definition of the underground economy used in the study is "the value added (return to labour and capital) which is left out of GDP due to underground production, defined as **legal** economic production hidden from the authorities in order to avoid taxes and regulations".

Some of the underground activity escapes taxation, but is nevertheless estimated by Statistics Canada and traditionally included in official GDP. The maximum size of this **measured** part of the underground economy is estimated to be 1.5% of GDP. This would include some wages paid by households for domestic service and childcare, employees' tips, and some of the net income of non-farm unincorporated business including rental income.

The rest of the underground economy is **unmeasured** and excluded from published GDP. The upper limit of this part of the underground economy is estimated to be 2.7% of GDP. Statistics Canada concluded that among the various types of expenditure in the economy, only investment in residential construction and personal expenditure on goods and services could be significantly underestimated due to underground transactions; imports and exports could also be marginally affected. The other components of GDP, government expenditure, business investment in plant and equipment and inventories are not ones where underground activity is likely to occur.

Table 1 shows the upper limit of the size of underground transactions in the expenditure components of GDP. These transactions may take the form of 'under the table' activity or the 'skimming' of receipts on the part of legitimate businesses. Not surprisingly the highest proportion of underground activity occurs in residential construction (8.1%), especially alterations and improvements. Personal expenditure would be at most 3.5% higher if all underground transactions were captured. The goods and services with the biggest change, in both absolute and percentage terms, would be motor vehicle parts and repairs, alcoholic beverages and tobacco products, meals in restaurants, accommodation, hairdressing, and domestic and household services.

[1] Statistics Canada, The Size of the Underground Economy in Canada, Catalogue No. 13-603E No.2, 1994.

Other Evidence

In addition to the estimates described above, which are based on data from the Income and Expenditure Accounts, Statistics Canada has also looked at underground activity from the perspective of industries where such activities are likely to occur. Each industry has been rated according to its 'exposure' to underground activity. Most industries, accounting for roughly 75% of economic activity, are either not exposed at all or very little exposed to such activity. The remaining industries, such as construction, retail and wholesale trade, and various business and personal services, are exposed to some underground activity. Even if this 25% of GDP were exposed to as much as 10% underground activity, this would only account for 2.5% of published GDP.

Another perspective on the size of underground economy is to look at the share of total activity accounted for by small businesses, since it is unlikely that the activities of medium and large corporations go unreported. Small business, including all unincorporated businesses, incorporated businesses with annual sales below $1 million and all self-employed individuals, is estimated to account for 14% of GDP. Thus for underground transactions to represent 15% of GDP in Canada, the underground sector would have to be as large as the small business sector.

Most underground transactions are thought to relate to goods and services sold to households. If the 10.2 million Canadian households made under the table purchases that amounted to 15% of published GDP, this would mean purchases of $10,500 per household per year. This average expenditure seems quite unreasonable. If one assumes, however, that one third of households make under the table purchases of $2,000 per year, one arrives at an estimate for underground purchases of 1% of GDP.

Finally, the underground sector is not independent from the 'above ground' economy. Income earned in one sector is spent in the other and vice versa. As a result, a boom in a large underground sector would be felt in the rest of the economy. The aggregate statistics for the ‘above ground’ economy do not indicate that this type of growth has occurred.

Estimates for British Columbia

BC STATS has calculated a rough estimate of the maximum size of the underground economy in British Columbia by applying Statistics Canada's national proportions of underground activity to the various components of income and expenditure in British Columbia for 1992. This procedure results in an estimate of the **measured** underground economy of $1.5 billion in 1992, or 1.7% of GDP. Table 1 shows the upper limit of the underground transactions **missing** from the expenditure-based measure of GDP in 1992. For British Columbia this upper limit is estimated to be $2.6 billion in 1992, or 3.0% of GDP. The maximum size of **measured and unmeasured** underground transactions in 1992 in British Columbia was thus $4.1 billion, or 4.7% of GDP.

Illegal Production

It should be noted that the above estimates of the size of the underground economy exclude the production of **illegal** goods and services, such as those associated with the sale of narcotics. Tobacco and alcohol smuggling, however, are considered to be part of the underground economy since the importation and sale of these products are normally lawful activities. Statistics Canada has estimated that illegal production accounts for no more than 1% of GDP.

Table 1

Upper Limit of Underground Activity Potentially Missing from Expenditure-based GDP, 1992

	Canada		British Columbia	
	Million $	%	Million $	%
Personal expenditure on goods and services	14,830	3.5	1,944	3.5
Durable goods	2,679	5.0	342	5.0
Semi-durable goods	1,430	3.8	179	3.8
Non durable goods	4,527	4.1	570	4.1
Services	6,194	2.9	853	2.9
Government current expenditure on goods and services	0		0	
Government investment	0		0	
Business investment in fixed capital	3,578	3.2	691	3.2
Residential construction	3,578	8.1	691	8.1
New residential construction	1,883	9.0	442	9.0
Alterations and improvements	1,695	13.9	249	13.9
Transfer costs	0		0	
Non residential construction	0		0	
Machinery and equipment	0		0	
Business investment in inventories	-15	0.6	-1	0.6
Exports	1,100	0.6	109	0.6
Merchandise	800	0.5	109	0.5
Non merchandise	300	1.2	N/A	1.2
Less: Imports	1,003	0.5	174	0.5
Merchandise	1,003	0.7	174	0.7
Non merchandise	0		N/A	
Gross Domestic Product at market prices	18,490	2.7	2,569	3.0
Final domestic demand	18,408	2.6	2,635	2.9

Infoline

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BC at a glance . . .

POPULATION (thousands)	Jan 1/97	% change on year ago
BC	3,902.5	2.2
Canada	30,135.9	1.1
GROSS DOMESTIC PRODUCT *(BC - at market prices - $ millions)*	1996	% change on year ago
Current Dollars	103,631	1.7
Constant (1986) Dollars	74,001	1.0
TRADE ($ millions)		
Manufacturing Shipments (seas. adj.) Mar	2,884	11.5
Merchandise Exports (raw) Mar	2,356	11.0
Retail Sales (seasonally adjusted) Mar	2,691	3.3
CONSUMER PRICE INDEX *(all items - 1986=100)*	Apr '97	% change on year ago
BC	139.4	0.6
Canada	137.6	1.7
LABOUR FORCE (thousands) *(seasonally adjusted)*	May '97	% change on year ago
Labour Force - BC	2,002	1.6
Employed - BC	1,825	1.5
Unemployed - BC	176	3.0
		May '96
Unemployment Rate - BC *(percent)*	8.8	8.7
Unemployment Rate - Canada *(percent)*	9.5	9.4
INTEREST RATES (percent)	Jun 11/97	Jun 12/96
Prime Business Rate	4.75	6.50
Conventional Mortgages - 1 year	5.40	6.50
- 5 year	7.35	8.50
US/CANADA EXCHANGE RATE	Jun 11/97	Jun 12/96
(avg. noon spot rate) Cdn $	1.3869	1.3666
US $ *(reciprocal of above rate)*	0.7210	0.7317
AVERAGE WEEKLY EARNINGS *(industrial aggregate - dollars)*	Mar '97	% change on year ago
BC	604.23	1.1
Canada	593.82	2.5

SOURCES:
Gross Domestic Product: Statistics Canada, revised by BC STATS
Population, Trade, Prices, Labour Force, Earnings: Statistics Canada
Interest Rates, Exchange Rates: Bank of Canada Weekly Review

Surging High Technology Sector

We have all heard that *high technology* is a hot sector in the British Columbia economy. But just how hot? And what exactly is it?

In a report released this week the sector is profiled and predicted to continue its strong growth. The full report, and three previous reports on the sector can be found on BC STATS' Website:

http://www.bcstats.gov.bc.ca

Check out **What s New** or go to the **Business/Economics** subject area.

The Underground Economy

The subject of today's Infoline Report is attracting renewed interest so we are reprinting a report that first appeared in the September 1994 issue of *Business Indicators*.

Released this week by BC STATS

- Labour Force Statistics, May 1997
- Tourism Room Revenue, January 1997

Next week

- Consumer Price Index, May 1997
- Toursim Room Revenue, Annual 1996
- Small Business Quarterly, First Quarter 1997

The British Columbia High Technology Sector, 1988-1995. BC STATS & Science and Technology Branch, Information, Science and Technology Agency.

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