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MAJOR RELEASES

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NEW PRODUCTS

MAJOR RELEASES

Study: Knowledge workers in Canada's workforce

1971–2001

The shift towards a knowledge-based economy in Canada was a more widespread and continuous process than analysts have previously thought, according to a new study. Furthermore, this shift was not restricted to narrow areas of interest, such as popularly defined high-tech sectors.

The study found that this expansion is not a new phenomenon that has emerged only in the 1990s when the information and communications technology sector experienced explosive growth.

In fact, the proportion of knowledge workers increased steadily over the last three decades, reflecting a growth trend that began long before the high-tech boom of the 1990s.

In 1971, about 14% of Canada's workforce fell into what can be considered high-knowledge occupations. By 2001, this proportion had almost doubled to 25%. Growth also occurred across most industries.

Growth was continuous for professional and management occupations throughout the 30-year period, but fell behind in the 1990s for the technical occupations.

The largest increase occurred among the largest group of knowledge workers, that is, those in professional occupations. In 1971, they accounted for almost 9% of Canada's workforce. Three decades later, they accounted for more than 14%.

Knowledge workers found in all areas of the economy

Contrary to the view that knowledge workers are found only in a handful of high-technology industries, the report shows that Canada's skilled workers are spread widely across all sectors and regions of Canada.

The shift towards a more highly skilled workforce has been a long, continuous process, crossing all provinces and the urban–rural divide. The study suggests that there has been a general increase in the importance of skills, knowledge and human capital among many types of firms and industries.

Across industries, there were large differences in the percentage of employment found in knowledge-based occupations. In 2001, some of the largest concentrations of knowledge workers were in business services (66%) and finance and insurance (42%).

From 1971 to 2001, the proportion of knowledge workers in the mining and oil and gas sector almost doubled, from 14% to 26%.

In the 1990s, the proportion of workers who were knowledge-based grew faster in service industries than in goods industries.

In the business sector, a higher proportion of men work in knowledge-based occupations than women. In 1996, 11% of female workers in these industries were employed in knowledge-based jobs, compared with 19% of male workers. However, over the long run, the proportion of female knowledge workers has grown faster than that of their male counterparts.

Educational requirements highest for professional workers

The proportion of workers in knowledge-based occupations who have completed a university degree has increased significantly.

In 1971, 34% of knowledge workers had university degrees, compared with slightly less than 3% of other workers. By 2001, 52% of all workers in knowledge-intensive occupations had a university degree, compared with less than 10% of those in other occupations.

Note to readers

A two-part study released today provides new insights into the extent to which Canada's workforce has become more knowledge-based over the past three decades. This study is part of a new research paper series that analyses knowledge-based transitions in the Canadian economy.

This study identifies a group of so-called "knowledge-intensive" occupations and charts their growth from 1971 to 2001. These occupations fall into three broad classes:

***Professional occupations** are characterized by high relative wages and a high proportion of people with university-level education.*

***Management occupations** are characterized by high relative wages, but a lower proportion of people with university degrees.*

*Finally, **technical occupations** are those with lower relative wage rates, but a high proportion of people with postsecondary education or higher.*

Using census data, the study examines the characteristics of this knowledge-based workforce on the basis of education, sex, wages, industry, region and urban-rural areas.

University degrees are most common in professional occupations. In 1971, slightly less than 45% of professionals had university degrees. Three decades later, this proportion had increased to two-thirds.

Still, among knowledge workers, those in technical occupations experienced the fastest growth in university degrees over the last three decades.

While knowledge-based occupations pay significantly higher wages, the wage advantage enjoyed by knowledge workers relative to other occupations did not increase significantly from 1971 to 2001.

Growth in knowledge workers apparent in all regions

Growth in knowledge-based occupations has occurred in all regions. Ontario and Quebec experienced the biggest percentage point increases.

However, provincial differences in the incidence of knowledge occupations were primarily the result of their industrial and urban structure. After controlling for differences in industrial and spatial structure, only very small differences were apparent across Canada's provinces.

From 1971 to 1996, the percentage of workers in knowledge occupations was much higher in urban areas than in rural areas, but these urban–rural differences have decreased over time.

The fourth research paper from the Canadian Economy in Transition Series, *Dimensions of occupational changes in Canada's knowledge economy, 1971–1996* (11-622-MIE2003004, free) is now available online. An update that includes data on knowledge workers for 2001, *Knowledge workers in Canada's economy, 1971–2001* (11-624-MIE2003004, free) is also available. From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *National accounts*.

For more information on other papers related to the growth and development of the new economy, go to the *Economic transitions* page on our website (*www.statcan.ca/english/studies/eaupdate/trans.htm*).

For more information, or to enquire about the concepts, methods or data quality used in this release, contact Desmond Beckstead (613-951-6199), Micro-Economic Analysis Division. ■

OTHER RELEASES

Impact of the Ontario–US power outage on hours worked

August 14 to 31, 2003

An estimated 2.4 million workers in Ontario and Gatineau, Quebec, lost 26.4 million hours of work time in the second half of August because of the Ontario–US power outage and subsequent conservation period. This amounted to over one in three workers. At the same time, an estimated 713,000 people, or 11.0% of workers, put in a total of 7.5 million overtime hours. The net effect was a loss of 18.9 million hours.

There was a net loss in all industries except utilities, farm and municipal government. Workers in these three industries saw their hours rise as a result of the outage. In some industries, the net loss was very large.

A total of 3.6 million of the 18.9 million hours lost were at the federal or provincial level. About 6 in 10 federal and over 4 in 10 provincial government workers lost work hours in the second half of August because of the outage or conservation period. While some also worked overtime, the net effect was a loss of 16 hours per federal employee and 12 hours per provincial worker.

A significant share of factory workers also lost time in August. One-half of all people working in manufacturing were absent because of the blackout. Helping offset this, power outage-related overtime was relatively common in manufacturing, with 17.1% of workers putting in extra hours, but the net loss of hours was still 3.7 million hours.

In utilities, 122,000 hours were added to workers schedules as a result of the power outage. While 17.2% of utilities workers lost some work time, 18.9% worked some overtime. Furthermore, the overtime was long for utilities workers. The average overtime worker in utilities put in 19.4 hours in the second half of August, more than any other industry.

Overtime was also common in municipal government, where 16.6% of workers put in long hours because of the outage, second only to utilities. Included in municipal government are many essential services such as police, fire and ambulance.

The only other industry with a positive net effect on hours was agriculture. Only 4.9% of people employed in farming lost work time, whereas 13.1% worked longer hours because of the blackout.

Note: Data for this release were derived from questions added to September's Labour Force Survey (LFS). Special questions were required to estimate the impact on hours worked of the power outage that started on August 14 and subsequent conservation period during the following week. The LFS normally only measures hours worked during one week of the month, the survey reference week. In August, the reference week was the week of the 10th to the 16th. Since the impact of the power outage extended beyond that week, the additional questions were asked in September. In reference to the second half of August, four questions were asked of a sample of September LFS respondents in Ontario and Gatineau, Quebec., from which a large number of people commute to the Ottawa region to work. Together, these questions determine, as result of the power outage and conservation, how many people lost work time, and how many hours they lost, the number of people who worked overtime and the amount of overtime they put in. The impact on hours worked allows for some measurement of the overall economic impact of the Ontario–US power outage.

For general information or to order data, contact Client Services (1-866-873-8788; 613-951-4090; fax: 613-951-2869; *labour@statcan.ca*). To enquire about the concepts, methods or data quality of this release, contact Geoff Bowlby (613-951-3325; *geoff.bowlby@statcan.ca*). □

Total number of people who lost work as a result of the Ontario–US power outage, rate of absenteeism, and associated hours lost, by industry[1], Ontario and Gatineau Quebec, last half of August, 2003

	Number of people absent because of power outage	Rate of absenteeism (absent workers as a share of total employed)	Total hours lost	Hours lost per absent employee
	'000	%	'000	
Total	**2,381.4**	**36.8**	**26,377.3**	**11.1**
Goods-producing sector	725.8	41.8	7,408.8	10.2
Agriculture	4.6	4.9	35.6	7.7
Forestry, fishing, mining, oil and gas	4.6	13.8	43.9	9.5
Utilities	10.0	17.2	91.7	9.2
Construction	133.3	32.0	1,476.5	11.1
Manufacturing	573.2	50.6	5,761.0	10.1
Services-producing sector	1,645.4	34.7	18,875.9	11.5
Trade	336.9	35.2	3,047.3	9.0
Transportation and warehousing	70.1	24.9	858.5	12.2
Finance, insurance, real estate and leasing	202.7	45.5	1,943.2	9.6
Professional, scientific and technical services	197.4	44.2	1,914.8	9.7
Management of companies and administrative and other support services	112.3	40.9	1,167.0	10.4
Educational services	71.2	21.0	713.6	10.0
Health care and social assistance	135.0	21.3	1,184.3	8.8
Information, culture and recreation	123.9	36.8	1,504.3	12.1
Accommodation and food services	135.9	34.7	1,336.6	9.8
Other services	94.8	34.7	897.2	9.5
Public administration	165.0	46.0	4,309.2	26.1
Federal	102.4	60.4	2,889.3	28.2
Provincial	34.5	44.7	1,090.8	31.6
Municipal and other	28.0	25.1	329.2	11.8

[1] *Survey conducted in September and industry information comes from person's job in September. Because some people had no industry information in September but lost/gained work in August, the sum of all industries does not add to the total.*

Total number of people who worked overtime as a result of the Ontario–US power outage, rate of overtime, associated hours gained, and net effect on hours, by industry[1], Ontario and Gatineau Quebec, last half of August, 2003

	Number of people who worked overtime because of power outage	Rate of overtime (overtimers as a share of total employed)	Total hours gained	Hours gained per overtime worker	Net effect of power outage (hours lost minus hours gained)
	'000	%	'000		'000
Total	**712.5**	**11.0**	**7,522.5**	**10.6**	**-18,854.8**
Goods-producing sector	255.2	14.7	2,876.6	11.3	-4,532.2
Agriculture	12.3	13.1	134.5	10.9	98.9
Forestry, fishing, mining, oil and gas	1.6	4.8	14.7	9.2	-29.2
Utilities	11.0	18.9	213.4	19.4	121.7
Construction	35.9	8.6	412.9	11.5	-1,063.6
Manufacturing	194.4	17.1	2,101.0	10.8	-3,660.0
Services-producing sector	455.6	9.6	4,638.3	10.2	-14,237.7
Trade	84.2	8.8	737.0	8.7	-2,310.3
Transportation and warehousing	26.6	9.4	261.6	9.8	-596.9
Finance, insurance, real estate and leasing	49.4	11.1	397.6	8.1	-1,545.6
Professional, scientific and technical services	55.8	12.5	658.4	11.8	-1,256.4
Management of companies and administrative and other support services	33.4	12.2	297.8	8.9	-869.2
Educational services	9.5	2.8	107.6	11.4	-606.0
Health care and social assistance	51.7	8.2	553.1	10.7	-631.2
Information, culture and recreation	42.8	12.7	462.8	10.8	-1,041.5
Accommodation and food services	30.2	7.7	288.6	9.6	-1,047.9
Other services	20.7	7.6	154.5	7.5	-742.7
Public administration	51.4	14.3	719.2	14.0	-3,590.0
Federal	16.7	9.8	198.6	11.9	-2,690.6
Provincial	14.0	18.1	176.5	12.6	-914.3
Municipal and other	20.8	18.6	344.0	16.6	14.9

[1] *Survey conducted in September and industry information comes from person's job in September. Because some people had no industry information in September but lost/gained work in August, the sum of all industries does not add to the total.*

■

Aquaculture statistics

2002

Revenues from Canada's aquaculture industry rebounded in 2002, in the wake of increased production but lower prices for farmed salmon.

The aquaculture industry reported record operating revenues of $732.3 million in 2002, up 4.9% from $697.8 million in 2001. Sales of products and services reached $711.8 million, a 6.0% increase. Of that total, finfish, mostly salmon, accounted for just over 90% of total sales, or $644.3 million.

Increased production and exports resulted in sales of finfish growing 7.0% from 2001. However, significantly lower prices for farmed salmon, due mainly to larger supplies in the United States, together with outbreaks of disease, had a major impact on revenues.

The value of aquaculture exports totalled $474.0 million in 2002, up 6.7%. Exports to the United States jumped 8.0%, driven by strong demand for salmon, especially in fresh and frozen filleted form. Canada's exports of filleted products to the United States grew 20.2%. However, the value of filleted products rose only 6.4% because of downward pressure on prices.

Sales of molluscs, which accounted for 8.6% of total sales, rose modestly to $61.3 million.

Sales in Prince Edward Island fell 6.0% to 26.5 million, but still accounted for over 40% of the national total.

British Columbia, Canada's largest aquaculture-producing province, generated sales of $329.6 million in 2002, up 12.3% from 2001. A significant 32.2% increase in the quantity of finfish produced was somewhat offset by falling prices for farmed salmon and outbreaks of disease. Finfish sales totalled $309.6 million, up 13.1%. Sales of molluscs reached $19.0 million, up 5.6%.

New Brunswick, the second largest producer of farmed salmon, generated $282.3 million in sales of products and services in 2002, up 1.9% from 2001. Production gains were also offset by low prices and disease. British Columbia and New Brunswick accounted for over 85% of aquaculture revenues last year.

Nationally, product expenses, which consist of cost of products and services purchased from other businesses excluding capital and labour costs, totalled $505.1 million in 2002, up 8.1%. Feed costs, which accounted for over 43% of all product expenses for finfish producers, increased 11.7% to $219.2 million.

The aquaculture industry produced a gross output, including sales, subsidies and growth in inventories, of $734.7 million in 2002, up slightly from 2001. The gross value added by the industry to the economy, the difference between gross output and total product expenses, reached $230.4 million, a 13.7% decrease.

Available on CANSIM: tables 003-0001 and 003-0003.

Definitions, data sources and methods: survey numbers, including related surveys, 3479 and 4701.

Aquaculture statistics (23-222-XIE, Free) is now available online. From the *Our products and service* page, under *Browse our Internet publications*, choose *Free*, then *Agriculture*.

For general information, contact client services (1-800-465-1991). To enquire about the concepts, methods or data quality of this release, contact Debbie Dupuis (613-951-2553; *debbie.dupuis@statcan.ca*) or Bernadette Alain (902-893-7251; *bernadette.alain@statcan.ca*), Agriculture Division. □

Value added account, aquaculture industry

	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000 to 2001	2001 to 2002
	New Brunswick			British Columbia			Canada				
	$ '000									% change	
Sales of aqua products or services	281,900	277,100	282,300	296,300	293,400	329,600	692,500	671,030	711,800	-3	6
Total operating revenue	289,900	282,500	286,600	311,800	307,900	337,950	722,870	697,800	732,320	-3	5
Gross output	314,900	297,500	313,600	336,800	327,900	312,950	776,470	732,200	734,720	-6	0
Total of product inputs	208,500	207,900	215,500	200,700	202,400	234,700	472,650	465,200	504,345	-2	8
Gross value added (factor cost)	**106,400**	**89,600**	**98,100**	**136,100**	**125,500**	**78,250**	**303,820**	**267,000**	**230,375**	**-12**	**-14**

■

Stocks of frozen and chilled meats

October 2003

Total frozen and chilled red meat in cold storage at the opening of the first business day of October amounted to 99 357 metric tonnes, virtually unchanged from 99 471 tonnes in September and up 26% from 78 555 tonnes in October 2002. Stocks of frozen poultry meat in cold storage on October 1 totalled 67 368 metric tonnes, down 10.8% from a year earlier.

Available on CANSIM: tables 003-0005 and 003-0041.

Definitions, data sources and methods: survey number 3423.

Stocks of frozen and chilled meats (23-009-XIE, free) is now available online. From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *Agriculture*.

For general information, call 1-800-465-1991. To enquire about the concepts, methods or data quality of this release, contact Barbara McLaughlin (902-893-7251; *barbara.mclaughlin@statcan.ca*), Agriculture Division. ■

Asphalt roofing

September 2003

Data on asphalt roofing are now available for September.

Available on CANSIM: table 303-0006.

Definitions, data sources and methods: survey number 2123.

The September 2003 issue of *Asphalt roofing*, Vol. 55, no. 9 (45-001-XIB, $6/$51) is now available. See *How to order products*.

For more information, or to enquire about the concepts, methods or data quality of this release, contact the dissemination officer (1-866-873-8789; 613-951-9497; *manufact@statcan.ca*), Manufacturing, Construction and Energy Division ■

Charitable donors: Erratum

2002

The second paragraph of the release on charitable donors, published in The Daily on October 29, stated that taxfilers donated more than $5.8 million to charity in 2002. The number should have read $5.8 billion.

Definitions, data sources and methods: survey number 4106.

For more information, or to enquire about the concepts, methods or data quality of this release, contact Client Services (1-866-652-8443; 613-951-9720; fax: 1-866-652-8444 or 613-951-4745; *saadinfo@statcan.ca*), Small Area and Administrative Data Division. ■

NEW PRODUCTS

The Canadian economy in transition: Dimensions of occupational changes in Canada's knowledge economy, 1971–1996, no. 4
Catalogue number 11-622-MIE2003004
(free).

Insights on the Canadian economy: Knowledge workers in Canada's economy, 1971–2001, no. 4
Catalogue number 11-624-MIE2003004
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Stocks of frozen and chilled meats, October 2003
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(free).

Aquaculture statistics, 2002
Catalogue number 23-222-XIE
(free).

Asphalt roofing, September 2003, Vol. 55, no. 9
Catalogue number 45-001-XIB ($6/$51).

Canadian Business Patterns (CBP), June 2003
Catalogue number 61F0040XCB
(various prices).

Information and communication technology price indexes: Concepts and methods
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All prices are in Canadian dollars and exclude sales tax. Additional shipping charges apply for delivery outside Canada.

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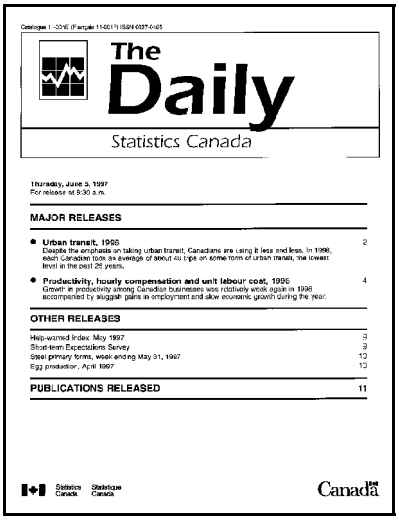

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Statistics Canada

Thursday, June 5, 1997
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MAJOR RELEASES

- **Urban transit, 1996** 2
  Despite the emphasis on taking urban transit, Canadians are using it less and less. In 1996, each Canadian took an average of about 49 trips on some form of urban transit, the lowest level in the past 25 years.
- **Productivity, hourly compensation and unit labour cost, 1996** 4
  Growth in productivity among Canadian businesses was relatively weak again in 1996 accompanied by sluggish gains in employment and slow economic growth during the year.

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