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About this Bulletin...

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A New Measure of Economic Well-Being

Overall this decade, economic well-being has declined in Canada. According to a research paper by Lars Osberg of Dalhousie University and Andrew Sharpe of the Centre for the Study of Living Standards prepared for the Applied Research Branch, well-being peaked in 1989 at about 16 percent above its 1971 level. Canadians then became gradually less well off, and by 1997 the level had fallen to only 6 percent above the 1971 mark.

Osberg and Sharpe pinpoint the main cause of this deterioration to be declining economic security—more specifically, increased risks of illness, unemployment and lone parenthood and the economic consequences associated with these situations.

The researchers develop in their paper a new measure of societal well-being named the Index of Economic Well-Being (IEWB). Some traditional economic indicators such as Gross Domestic Product (GDP) per capita show that economic well-being in Canada in the 1990s is improving, but they fail to account for non-market activities or to subtract from GDP the effect of factors such as pollution which impose costs. The IEWB does take these factors into account.

The Index of Economic Well-Being

The IEWB defines societal economic well-being as including four weighted components—consumption, wealth, equality and security. It is a comprehensive measure capturing most



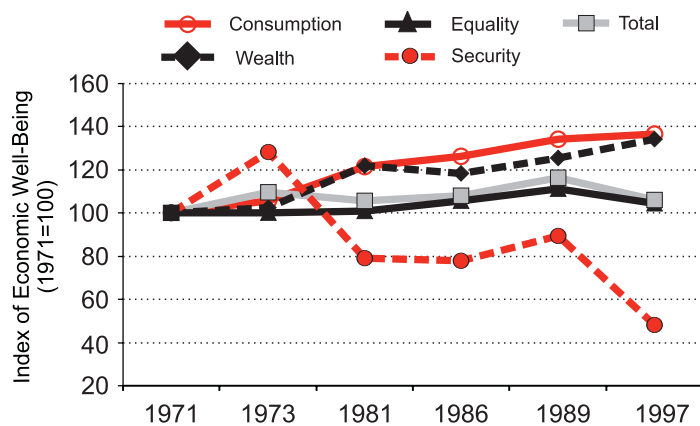
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Canada

aspects of formal and informal economic activity. It may be used along with similar broad indicators of well-being—notably the Index of Social Health (see *Applied Research Bulletin*, Vol. 3, No. 2) and the Genuine Progress Index (developed at Fordham University in the United States).

Index of Economic Well-Being by Components



“Consumption” in the IEWB is estimated using per capita market consumption, government spending and unpaid work. “Wealth” includes per capita capital stock, research and development, natural resources and human capital minus net foreign debt and the social cost of environmental degradation. “Equality” is based both on the intensity of a relative measure of poverty (Statistics Canada’s Low Income Measure) and the overall distribution of after-tax income. Finally, “security” measures risk of unemployment, illness, becoming a low-income lone parent and being poor in old age.

Weighting the Elements of the Measure

Sub-indexes are set so that the 1971 value equals 100. Changes from that value in a positive direction are recorded as numbers greater than 100, and those in a negative direction, as numbers less than 100. Each component of the index is assigned a weight. The weights are 0.4 for consumption, 0.1 for wealth, 0.25 for equality and 0.25 for economic security.

The various components of the IEWB behave as follows:

- ▶ **Consumption index**—Real consumption per capita, despite dips in the recessions of the early 1980s and the early 1990s, generally increased over the period, reaching an all-time high in 1997, 36.7 percent above its 1971 level.
- ▶ **Wealth index**—Driven by large gains in the value of human capital, the wealth index followed a trend similar to the consumption index. In 1997, it stood at an all-time high 34.3 percent above its 1971 level.
- ▶ **Equality index**—The trend was similar to that for the overall IEWB index, peaking at 11.3 percent above its 1971 level in 1989, but falling back to 4.3 percent above that level by 1997.
- ▶ **Security index**—By contrast to the other three components of the IEWB, the economic security component of the index declined almost continuously after 1973. It experienced a precipitous drop after 1989 to finish in 1997 at 51.8 percent *below* its 1971 level. It is this element that has dragged down the Index of Economic Well-Being for the 1990s.

The Economic Security Measure

The four risks selected for the economic security measure—illness, unemployment and the risk of poverty in lone parenthood and in old age—are based on the risks identified in the United Nations Universal Declaration of Human Rights. For each risk, the IEWB measures both the likelihood of facing that risk and the economic consequences of experiencing it.

The probability of losing acquired gains in the event of misfortune has increased because government fiscal restraint has reduced access to the safety nets provided by pre-paid health care and income support programs and because the risk for women of becoming a poor lone parent has increased.

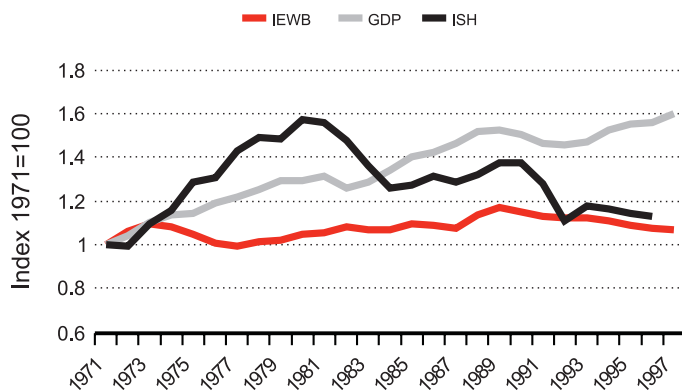
On the other hand, overall economic security for Canada’s older citizens has improved. The falling risk of poverty in old age and a more shallow depth of poverty for those elderly who become poor have improved economic security since 1971. The gains for the elderly have resulted from more generous real after-tax benefits from the Old Age

Security and Guaranteed Income Supplement programs, wider coverage of the Canada and Quebec Pension Plans and greater access to private pension and annuity income.

Different results might be obtained with different indicators and weights chosen by other researchers. However, the findings for the Index of Economic Well-Being are consistent with those of other measures which attempt to look beyond GDP per capita as an indicator of trends in well-being.

Trends in the Economic Index of Well-Being, The Index of Social Health and GDP

Per Capita: 1971-1997



Who Receives Employment Insurance, Who Does Not and Why?

Over the past years, concerns have been raised about whether the Employment Insurance program provides adequate income protection to workers in Canada who lose their jobs. In order to better understand recent developments, the Applied Research Branch commissioned Statistics Canada to conduct a new survey—the Employment Insurance Coverage Survey—to assess how well Employment Insurance has supported individuals in their transition between jobs.

The Employment Insurance Coverage Survey (EICS) obtains anonymous information on who receives Employment Insurance benefits, who does not, and the reasons for not receiving benefits. In addition, the survey provides useful facts about the financial situation of respondents, details

about the separation from their last job and their job-search intensity. (The EICS was first conducted in January 1997, and since then it has been conducted every three months.)

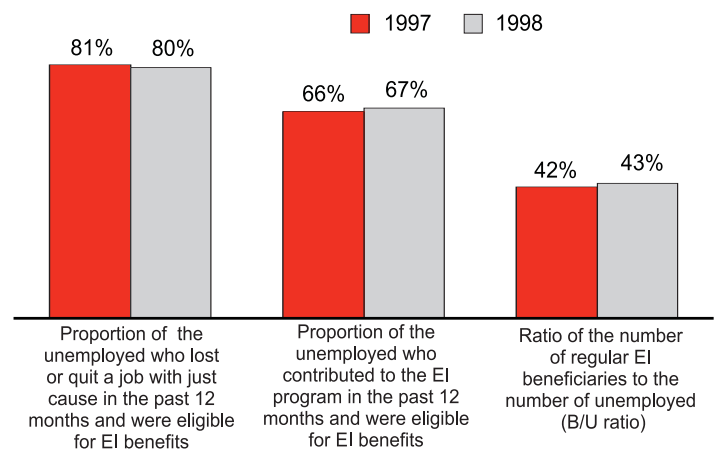
A working paper prepared by Applied Research Branch researchers in the fall of 1998, entitled *An Analysis of Employment Insurance Benefit Coverage*, uses data from the new survey. One finding of the study is that 78 percent of those who lost or quit their job with just cause in 1997 were eligible for EI benefits.

Since the publication of this study, 1998 data have become available and 1997 data have been updated. This *Bulletin* article is based on data for 1998.

EI Meets its Objective

The ARB study finds evidence that the EI program is, in fact, meeting its key objective of providing temporary income support to workers between jobs. An in-depth analysis of the aggregate EICS data reveals that 528,000 (80 percent) of the 660,000 unemployed who lost their job or quit with just cause in 1998 were eligible for EI benefits. The other 132,000 unemployed did not meet entrance requirements because they had not accumulated enough hours of work to become eligible for benefits.

Employment Insurance Benefit Coverage Among the Unemployed



Note: The B/U ratio is shown only for comparative purposes. It is not a good measure of the extent of benefit coverage among the unemployed.

The B/U Ratio: A Poor Indicator of Employment Insurance Coverage

The Beneficiaries to Unemployed (B/U) ratio which compares the number of regular Employment Insurance (EI) beneficiaries to the number of unemployed as estimated by Statistics Canada is sometimes used as an indicator of EI benefit coverage. Its popularity stems principally from the ready availability of the data to calculate it. It has attracted a lot of attention in the 1990s, since the ratio has undergone a pronounced decline. Recently the Canadian Labour Congress (CLC) calculated a modified B/U ratio by subtracting EI beneficiaries with earnings from the numerator. The result was lower than the conventional B/U ratio.

However, neither the conventional B/U ratio nor its variant used by the CLC is a good indicator of EI benefit coverage. There are several reasons for this. First, the ratio is constructed using two sources of data that are not compatible. Some beneficiaries are not considered unemployed by Statistics Canada, but are classified as “out of the labour force.” The term “regular beneficiaries” provides a partial picture of the EI program clientele since it excludes all non-regular beneficiaries—sickness, maternity, parental, adoption, fishing, training, work sharing, job creation and self-employment assistance beneficiaries.

The main reason why the B/U ratio is a poor indicator of EI benefit coverage is that not all unemployed individuals are expected to receive EI at all times. For instance, EI income benefits are not designed for people who have weak labour force attachment, for people who have never contributed, or people who quit their job voluntarily without good cause. Income benefits are designed instead to provide temporary assistance to workers between jobs.

A good indicator of EI coverage must look at how well the program is performing at providing temporary assistance to workers who become unemployed through no fault of their own. The B/U ratio cannot provide such an assessment. The working paper *An Analysis of Employment Insurance Benefit Coverage* fills that knowledge gap using new Statistics Canada survey data.

The researchers also discovered that a majority—about 67 percent—of the unemployed who contributed to the EI program in 1998 were eligible to receive EI benefits. The remaining 33 percent were not eligible either because they did not work enough hours, they quit their job with no just cause, or they left their job to go to school. This result is at odds with prevailing public perception that most of the unemployed who contribute to the program do not have access to EI benefits.

In addition, analysis of the EICS data reveals that legislative change to the EI program in the 1990s was not the major factor driving the increase in the number of unemployed not receiving benefits from the EI program. In fact, a significant number of these people—over 65 percent—would not have received EI benefits under the old laws and regulations. Among the 812,000 unemployed persons not receiving EI benefits for the year 1998, 528,000 either had no work in the last twelve months, were self-employed or

had left their job to return to school. None of these groups of unemployed was ever covered by the EI program or its predecessor, the Unemployment Insurance program.

Why Many Unemployed Are Not Covered

The study presents an extensive analysis of the population of unemployed not covered by Employment Insurance. The term “covered by Employment Insurance” is used here to describe unemployed who received or had established their right to Employment Insurance benefits during the survey reference week. The study identifies seven reasons for not being covered by EI benefits in 1998, in descending order of importance:

1. **Not having worked in the last twelve months.** This was the single most important reason for not being covered by EI benefits. 400,000 individuals were in this position in 1998, about 50 percent of the total unemployed population not covered.

2. Not meeting entrance requirements. Not having accumulated enough hours was the second most important reason for not being covered by EI benefits. Of those who had been laid off from their last job or quit with just cause, about 132,000 individuals did not meet entrance requirements in 1998 (i.e., the minimum number of hours worked). This represents more than 16 percent of the total unemployed population not covered. The study notes that those who do not meet the minimum EI entrance requirement tend to be more concentrated in the Atlantic provinces than in other regions in Canada.

program. Before then, those unemployed who voluntarily left their job without just cause had to wait longer to qualify and received less benefits than others covered by the program.

4. Being self-employed. The self-employed have never been covered by the Employment Insurance program or the Unemployment Insurance program. About 71,000 unemployed who worked in the last 12 months were self-employed prior to unemployment in 1998.

5. Quitting a job to return to school. About 57,000 unemployed had quit a job to return to school in 1998. Apart from exceptional cases, these people who became unemployed after returning to school have never been eligible for EI or Unemployment Insurance.

6. Not claiming EI benefits. About 30,000 unemployed who meet EI entrance requirements, or 4.0 percent of the unemployed not covered, were eligible to receive benefits but did not claim them.

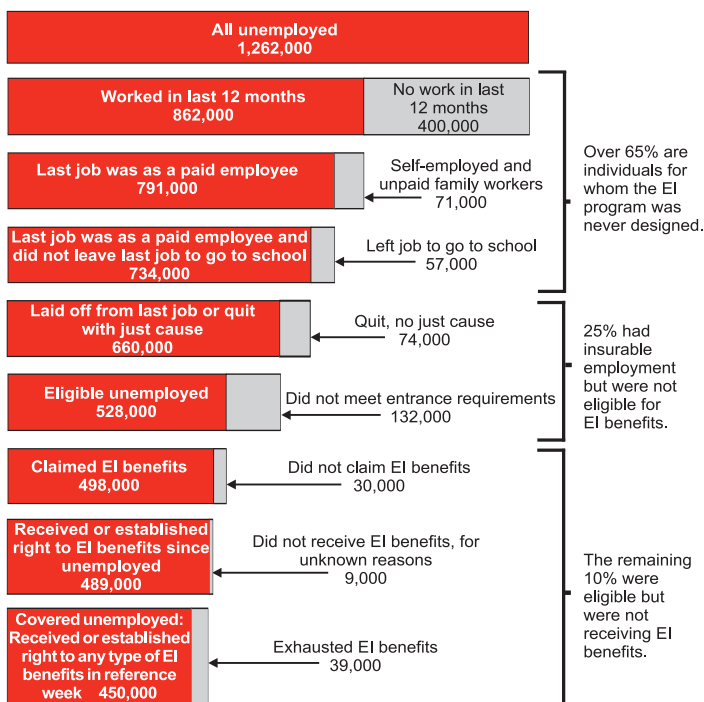
7. Having exhausted benefits, or not receiving EI benefits for unknown reasons. While 39,000 individuals who had a paid job in 1998 exhausted their benefits, a further 9,000 did not receive benefits, for unknown reasons.

This analysis provides mixed results on the coverage of EI benefits. On the one hand, conclusive evidence exists that a large majority of those who contributed to the EI program within 12 months prior to the survey week were eligible for EI benefits and that the Employment Insurance program is meeting its principal objective (providing temporary benefits to Canadians between jobs). On the other hand, the analysis reveals that an increasing share of the unemployed do not have access to EI benefits.

As already mentioned, not having worked in the last 12 months was the single most important reason identified for not being eligible. The study also reveals that the proportion of those unemployed at any point in time who have not worked in the previous 12 months has almost doubled as a proportion of total unemployment since 1989.

Who Is Not Covered by Employment Insurance Among the Unemployed?

1998

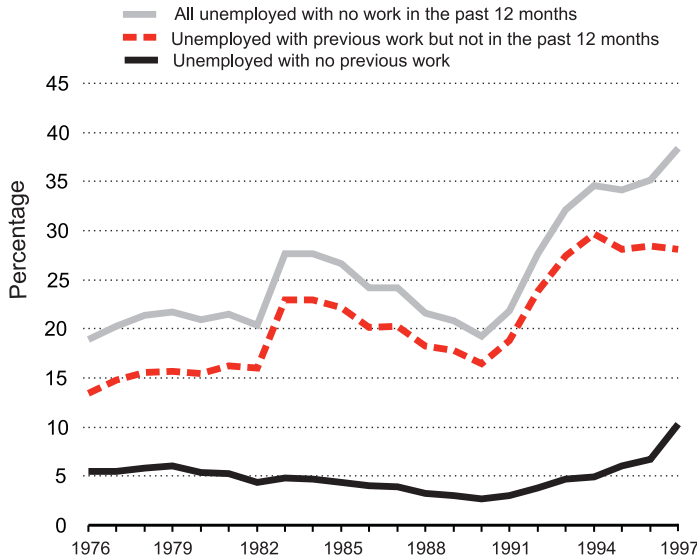


Note: Exclusions in this graphic are sequential: the descending and left-right order matters. For instance, had the sequence been reversed with the "self-employed" excluded first and the unemployed with "no work in last 12 months" excluded second, there would still be the same total number of unemployed excluded, 471,000. But there would be more self-employed and fewer unemployed with "no work in last 12 months," since some would have already been excluded as self-employed or unpaid family workers.

3. Voluntarily leaving a job without just cause. Excluding returning students, about 74,000 unemployed quit their last job without just cause. The rule excluding voluntary quitters was introduced with the 1993 changes to the Unemployment Insurance

This finding suggests that for many Canadians it is difficult to get a first job or to regain employment after a long period.

Unemployed With No Employment in the Last Twelve Months



Wage Supplement Improves Sense of Security but Stimulates Little Re-Employment

How does an earnings supplement affect future employment, earnings and Employment Insurance benefit receipt of those who are unemployed? This is the question addressed by the Earnings Supplement Project.

The main objectives of the Earnings Supplement Project (ESP) were to hasten re-employment and to reduce dependency on the Employment Insurance (EI) program. The ESP was targeted towards two groups of unemployed: EI repeat-users and displaced workers. It was implemented in nine Human Resources Centres of Canada covering seven provinces. The two final reports from the projects have recently been released—one reporting on the effects on repeat EI-users, who regularly combine periods of work with EI benefit receipt, and the other dealing with the

program’s impact on displaced workers, who had permanently lost their jobs due to changing economic conditions.

The final reports on ESP highlight the fact that a majority of participants, when interviewed, said that the wage supplement made available by the program added to their sense of security and personal well-being after they lost their job. However, the reports conclude that the Earnings Supplement Project has not succeeded to the degree expected as an incentive for rapid re-employment.

The main reasons cited for this limited success are lack of jobs for displaced workers and high expectation of recall by a previous employer for repeat users of EI. About 60 percent of displaced workers participating in the experiment did not find a full-time job in time to qualify for the supplement, and almost 90 percent of repeat EI-user participants expected to be able to return to their most recent employer.

On the positive side, 91 percent of displaced workers interviewed for the report said that the supplement made “a bit” or “a fair bit” of difference in their personal well-being. Many respondents expressed the view that ESP made a substantial difference between “worrying all the time, and not” and also contributed to “taking off a lot of pressure.”

In addition to personal well-being, the financial situation improved for the repeat-EI users and displaced workers who received the wage supplement. Among the displaced workers interviewed who received the supplement, 94 percent said that the supplement had made “a bit” or “a fair bit” of difference to their financial well-being.

The impact on job search was also a focus of the evaluation. The report concludes that ESP had a limited effect on the job search behaviour of displaced workers. In fact, whether or not they received the payment, displaced workers started looking for new jobs quickly and diligently tried to become re-employed. Both repeat EI-users and displaced workers used similar approaches in their job search. The only difference is that ESP caused some displaced workers to consider new types of jobs.

The researchers also found that at its peak impact, ESP increased the percentage of displaced workers who became re-employed full time, by 4.2 percentage points. This improvement was short-lived, however, and almost disappeared after a year. For repeat EI-users, ESP had no significant impact on re-employment since only a small proportion of them took advantage of the wage supplement. Furthermore, ESP had no impact on either the duration of EI benefit receipt or the amount of benefits received.

The limited success of the ESP as a measure for stimulating re-employment is not surprising given the problem

experienced by the program in attracting participants among repeat EI-users and the difficulty reported by displaced workers in finding a new job. Among repeat EI-users, only 4.7 percent of the participants actually received the wage supplement. For displaced workers, the proportion was only about 2 out of 10 participants.

Nonetheless, the pilot project has proven useful in testing on a small scale the effectiveness of re-employment incentives for displaced workers and repeat EI-users. The conclusions drawn from the ESP project should not preclude the possibility that other types of earnings supplementation programs could be successful at increasing re-employment.

More About the Earnings Supplement Project

The Earnings Supplement Project (ESP) was one of the largest research projects of its kind conducted in Canada. It measured how a re-employment supplement affected future employment, earnings, and Employment Insurance benefit receipt. The ESP used an experimental technique known as random assignment considered by many specialists to provide the most reliable method to test program impacts. Program effects are estimated by comparing outcomes for participants who are eligible for the program (treatment group) to a similar group who are not eligible (control group). Enrollment began in September 1995 and supplement payments formally ended in October 1998.

ESP's financial incentive was based on the notion of "earnings insurance." Eligible participants who left Employment Insurance for full-time work within a specific period of time and took up a new job that paid less than their previous one could receive a supplement of 75 percent of the earnings loss. Participants could receive the wage top-up for up to two years. The supplement was time limited: in order to qualify, displaced workers were given 26 weeks to find a new job and repeat EI users were allowed 12 weeks.

Why conduct a pilot re-employment project? The *Unemployment Insurance Act* and its successor, the *Employment Insurance Act*, both recognized the need to search for innovative approaches to help unemployed people to overcome the barriers they face in becoming re-employed. ESP is one of the innovations arising from these Acts.

Since the earnings insurance concept had never been tested in Canada, there was a need to analyze its potential efficiency. The aim of the ESP experiment was to fill this information gap by testing on a relatively small scale the effectiveness of an earnings supplement targeted to specific portions of the Canadian population who are out of work.

Social Research and Demonstration Corporation conducted the project for Human Resources Development Canada.

Genuine Labour Shortage or Cyclical Phenomenon?

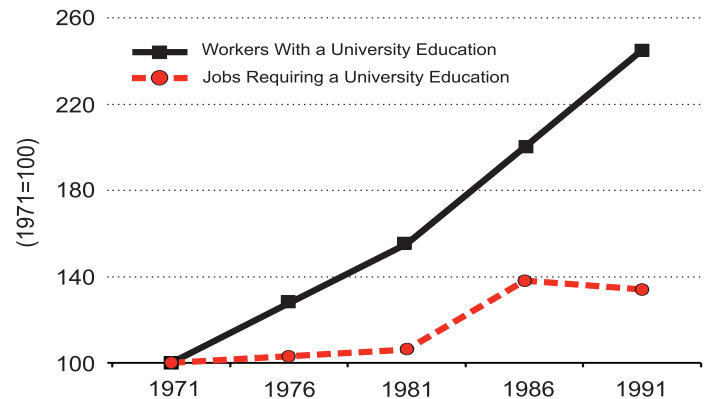
There is no indication that Canada is currently suffering from a general shortage of skilled labour. And astonishing though this may seem, this diagnosis is in complete harmony with the fact that, in recent years, more and more employers have been reporting recruitment problems caused by a labour shortage. Indeed, the authors of a recent study of this issue, Yves Gingras and Richard Roy, hold that these recruitment problems only indicate a normal cyclical phenomenon and a tightening of labour market conditions rather than an abrupt, general shortage of skilled labour. In short, labour shortages are just as inevitable in modern economies as unemployment. In itself, a shortage is not a symptom of dysfunction in labour markets or the education and training system.

Macroeconomic Analysis

The strong employment growth of recent years in occupations where the primary function is to generate ideas and which have a high percentage of skilled workers raises questions about the availability of skills. Constructing an index of the number of jobs by level of education enables us to determine the demand for workers by required level of skills. This index of labour needs and an index of labour supply by level of education allows for a comparison of the recent evolution of these indices.

From 1971 to 1991, jobs requiring university degrees increased by 40 percent while the number of university graduates in the labour market grew by 140 percent. These figures indicate that growth in the supply of university-level skills greatly exceeded growth in requirements for these skills in the economy. Far from registering a deficit, then, Canada may well have posted a surplus in this respect. However, the method of calculation used for constructing the data may have underestimated the qualifications required for current jobs or overestimated the skill level actually acquired by graduates.

Demand for and Supply of Workers With a University Education



Note: According to the *Canadian Classification and Dictionary of Occupations*, jobs requiring a university education are those requiring at least 17 years of education.

Source: Estimates by the Applied Research Branch, HRDC, using census data

On the other hand, if a genuine gap has appeared between supply and demand for skilled labour in Canada, we should see its effects in trends affecting certain summary economic variables like wages, unemployment rates and rates of employment by type of worker. In a market economy, if a general shortage of skilled labour existed, we should be able to see a relative increase in the wage premium paid to skilled individuals. If the relative wages paid could not be adjusted and, as a result, relative quantities varied, we should then see a deterioration in the unskilled labour employment rate. Yet a review of these variables refutes the hypothesis of a general shortage of skilled labour in Canada.

For example, the trend in rates of return on education over time can be ascertained by examining the premiums paid for various education levels. The wage premium paid to workers with a university degree fell during the 1970s and remained relatively stable for about ten years. These trends prompt us to think that returns on education and skills, though high, have not increased and may even have decreased in Canada over the past 25 years. This is contrary to what would have been expected in the presence of a general shortage of skilled labour.

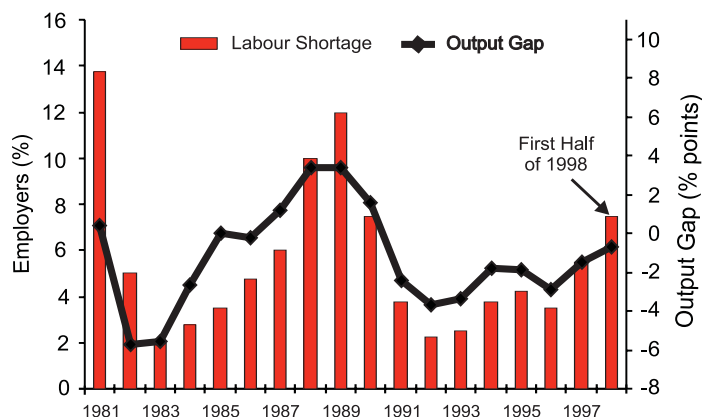
Microeconomic Analysis

Though study of microeconomic data reveals an increased incidence of labour shortages (skilled and unskilled) in certain sectors and occupations in recent years, these shortages do not seem more widespread today than in comparable stages of earlier business cycles.

Indeed, the percentage of employers in the manufacturing sector reporting recruitment problems attributable to shortages of skilled labour follows a trend that is altogether cyclical. In the first half of 1998, this proportion was about 7.5 percent, a rate comparable to what was observed in other periods when the level of economic activity relative to potential was similar to that of today (in 1987 and in 1990-1991, for example). In short, the results of this investigation have nothing very surprising to reveal: at the present stage in the business cycle, it is normal for an increasing number of employers to note shortages of skilled labour. This investigation thus does not reveal any increase in the structural level of shortages in the Canadian manufacturing sector.

In the view of many economists, research and development (R & D) activities are of primary importance for economic

Labour Shortage and Output Gap in the Manufacturing Sector



Note: The employer percentage denotes those with problems recruiting unskilled workers. The output gap corresponds to the difference between actual and potential Gross Domestic Product.

Source: Business Conditions Survey, OECD and Statistics Canada, *Economic Outlook* June 1998

growth. A lasting shortage of skills required for these activities might have altogether deleterious effects on our long-term growth potential. According to a Conference Board of Canada survey of firms in the R & D sector, about 30 percent of employers are currently experiencing or anticipating shortages of skilled workers, and this

Earnings Ratios, 1971-1996

University Degree/Post-Secondary Education*

	1971	1979	1985	1991	1996
Men					
Aged 30-39	1.49	1.26	1.34	1.36	1.31
All ages	1.58	1.37	1.42	1.48	1.44
Women					
Aged 30-39	1.63	1.47	1.39	1.62	1.56
All ages	1.50	1.42	1.43	1.53	1.54

University Education/Secondary Education**

	1971	1979	1985	1991	1996
Men					
Ages 30-39	1.78	1.39	1.49	1.63	1.49
All ages	1.87	1.54	1.59	1.72	1.62
Women					
Ages 30-39	1.64	1.66	1.74	1.91	1.72
All ages	2.01	1.65	1.76	1.79	1.74

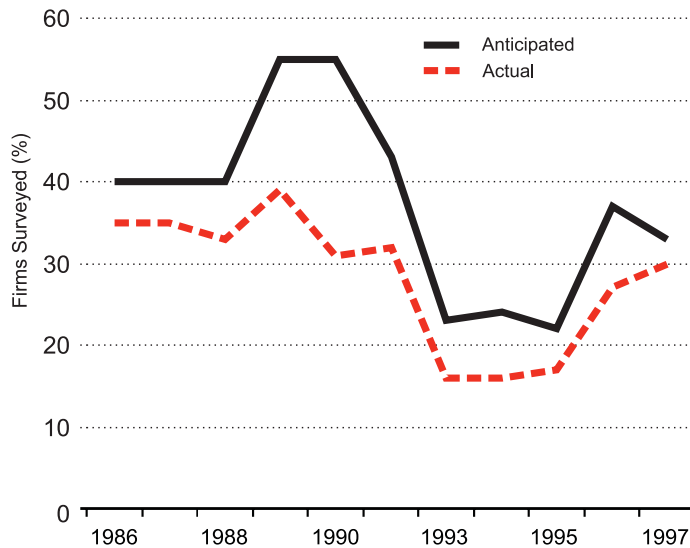
* Degree or diploma for completed postsecondary studies or partial postsecondary studies

** Partial or completed secondary studies

Source: Consumer Finances Survey

percentage has been increasing in recent years. However, this statistic is no higher today than it was in comparable stages of earlier business cycles and is somewhat lower than what we might expect, considering the links noted in the past between overall economic activity and this indicator of labour shortage.

Labour Shortage in the Research and Development Sector



Note: Labour shortage is defined here as the inability to fill a job during a period of six months.

Source: *R & D Outlook (1986-1997)* and *Innovation Outlook 1998*, Conference Board of Canada

The Human Resources Development Canada publication, *Job Futures*, provides a diagnosis of current and future labour market conditions for 211 occupational groups covering all jobs in Canada. The specific case of computer programmers and systems analysts is an interesting example of normal market adjustment. Review of the employment and wage indicators for these occupational groups reveals a slight tightening of the market in recent years, which is consistent with the results of surveys of employers revealing that they are experiencing recruitment problems with this type of worker.

Employment doubled for computer programmers and systems analysts between 1987 and 1997, which represents a growth rate about seven times that of employment

generally. According to Canadian census data, computer programmer salaries increased 20 percent from 1991 to 1996 and salaries for systems analysts rose 14 percent in the same period, whereas the increase was 12 percent for natural and applied science professionals. The National Graduates Survey also reveals that median salaries for university graduates in computer science five years after they receive their degrees have increased in recent years compared with those of graduates in other fields. The rate of full-time employment for new university computer science graduates climbed by 14 to 17 percentage points above the average for all fields of study between 1984 and 1997. According to the Labour Force Survey, the unemployment rate for systems analysts was 2.7 percent in 1997. All these figures point to a fairly tight market.

It is well known that economies go through cyclical phases of over- and under-utilization of available labour resources. In periods of economic expansion—the late 1980s, for example—labour shortages are clearly general. Employers seek workers in all ranges of the skills spectrum.

This cyclical alternation between shortages and surpluses is hard to avoid, since it is closely linked to macroeconomic phenomena. As a result, we cannot correct these shortages by increased investment in education and training.

Other Concepts of Shortages

The study also compares the average skill level of Canadian workers with workers in other industrialized countries. Results show that Canada compares favourably with many of its major trading competitors in world markets in terms of both investment in human capital and total skills.

The study also looks at the minimal skill levels required to succeed in the Canadian labour market. In this regard, the results indicate that today's young people should at least complete their high school education if they hope to secure and keep the jobs that are felt to be the least demanding in terms of skills.

Are Canadian Students Ready To Compete in the Global Economy?

A key question facing all countries is how well education systems are preparing students for their role as citizens and workers able to compete in a global knowledge-based economy. The Youth In Transition Survey (YITS) combined with the Program for International Student Assessment (PISA) will answer that important question and many others.

The Applied Research Branch has arranged for Statistics Canada to develop and conduct the YITS. This longitudinal survey will track the same individuals over time, providing information on school-work transitions and identifying any problems youth face as they make these transitions. The first cycle of YITS collection, which took place in spring 1999, focused on young adults aged 18 to 20. The second cycle, planned for the year 2000, will sample youth 15 years of age.

Another element of YITS is to test Canadian students' achievements. To fulfil this purpose, PISA will be used in the second cycle of YITS. PISA, an initiative of the Organisation for Economic Co-operation and Development, is designed to profile 15-year-old youths' reading, mathematics and science competencies and to relate these skills with demographic, social, economic and educational variables. The Applied Research Branch is supporting PISA in Canada through a partnership with the Council of Ministers of Education, Canada, and Statistics Canada. PISA will allow achievement assessment on an internationally comparative basis. YITS/PISA will be conducted with a sufficiently large sample of 15-year-olds in Canadian schools to provide statistically significant data that are comparable across provinces.

YITS/PISA will answer questions like the following:

- ▶ Are children acquiring the necessary skills and knowledge?

- ▶ How well are schools preparing students to meet future challenges? Will students be ready to enter the labour market, to analyze, reason and communicate ideas effectively? Will they possess the skills needed to continue learning throughout life?
- ▶ How do Canadian 15-year-olds compare to other countries' youth in reading, mathematics and science?

In addition the YITS study, by tracking the same Canadian young people over time, will help answer questions such as:

- ▶ What are the impacts of school curricula and experiences on educational and occupational outcomes?
- ▶ How do youths' expectations and aspirations affect investment in further education and career choice?
- ▶ What other factors influence educational and labour market pathways?
- ▶ What are the key school and work transition points in the lives of youth?
- ▶ What are the characteristics of the school-leaving "event"?
- ▶ Which educational and occupational pathways provide the smoothest transitions into the labour market?
- ▶ What are the contributing factors, effects and incidence of leaving school early?

A YITS/PISA pilot survey was conducted in April 1999. The main survey, which will take place in April 2000, is to be a two-hour test including a 60-minute student questionnaire, a 30-minute school questionnaire and a 15-minute telephone interview with parents.

YITS/PISA will be an important tool to provide governments and the general public with solid evidence of educational outcomes and school-work transitions.

Post-Secondary Education in Canada: Still a Good Investment

Findings from *The Class of '95: Report of the 1997 National Survey of 1995 Graduates* clearly illustrate that higher education continues to be a good investment. The employment prospects of post-secondary graduates are at least three percent better than among those without a post-secondary degree.

In 1995, close to 300,000 students graduated from universities, community colleges and trade/vocational schools. The 1997 National Survey of 1995 Graduates, developed by Human Resources Development Canada and Statistics Canada, collected information on the integration of graduates aged 20 to 29 into the labour market. This sample of 1995 graduates will be interviewed again in the year 2000 to track their progress and continued integration into the world of work.

Earnings Increase and Unemployment Rates Decrease with Education

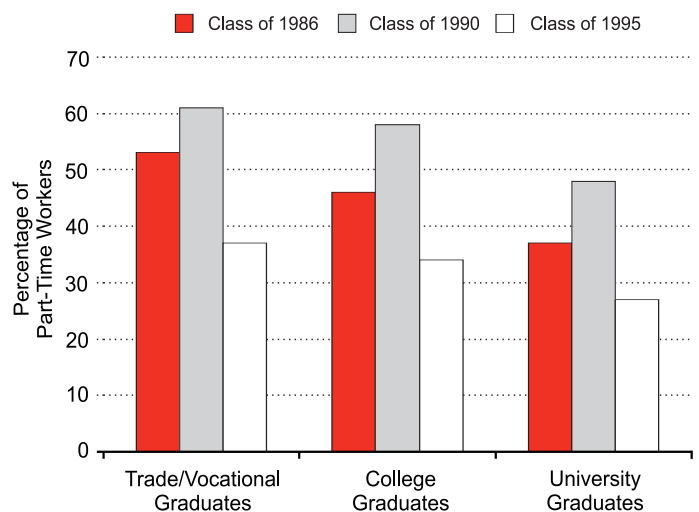
Median earnings increase significantly with education level, showing that staying in school longer pays off. The 1997 median earnings for university bachelor graduates working full time were \$32,000 in current 1997 dollars. The earnings for masters and doctorate graduates were substantially higher at \$47,000. College graduates earned \$25,700 in 1997, while trade/vocational graduates earned \$23,400.

Higher education continues to improve significantly the likelihood that Canadians will find employment, and in turn lowers the prospects of being unemployed. The overall unemployment rate among the class of 1995 in June 1997 was 10 percent, significantly lower than the rate of 13 percent among 20- to 29-year-olds without a post-secondary degree (Labour Force Survey). Unemployment among university bachelor graduates stood at 9 percent in June of 1997, compared to 10 percent for college graduates and 15 percent for trade/vocational graduates. The unemployment rates among masters and doctorate graduates were 7 percent and 8 percent, respectively.

More Graduates Work Part Time Voluntarily

A greater proportion of 1995 college and university graduates (14 percent) ended up working part time after graduating than the graduates from 1982, 1986 and 1990. However, only small percentages of university graduates (27 percent) and of college graduates (34 percent) who worked part time in 1997 did so because they could not find a full-time job. In previous surveys more college and university graduates were working part time involuntarily two years after graduation.

Involuntary Part-Time Work Two Years after Graduation



Source: National Graduates Surveys

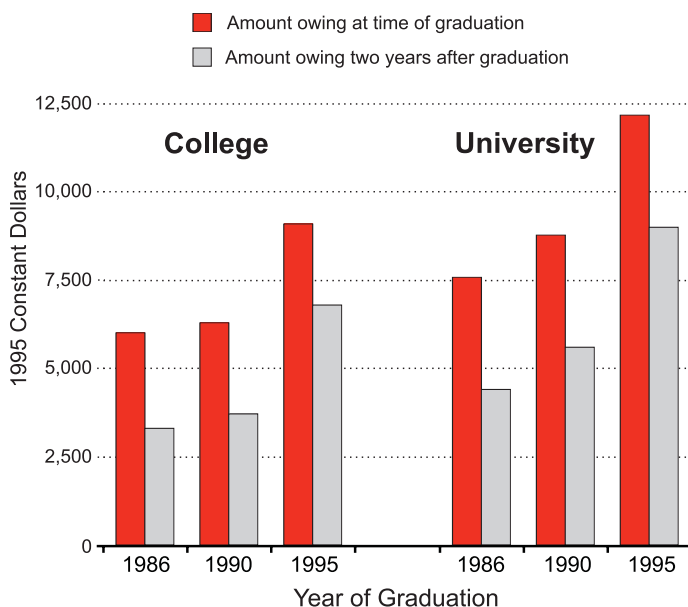
Finding Full-Time Work after Graduation

A high proportion of graduates were employed full time two years after graduation—trade/vocational graduates, 67 percent; college, 70 percent; and university, 68 percent. However, full-time work was more prevalent in some fields of study. Two years after graduation, 85 percent of commerce and 81 percent of engineering graduates at the university level were working full time. Only 5 percent of commerce and 3 percent of engineering graduates were working part-time during the same period—the lowest rate among all 1995 university graduates. About 80 percent of engineers and natural sciences graduates from trade/vocational schools and colleges were working full time two years after graduation.

High Debt Levels Raise Concerns

Students are paying more than before to get a higher education. The rising tuition fees for post-secondary education, particularly for university, have prompted concerns about increasing debt levels. The student debt level for the class of 1995 was higher than for the previous graduating classes of 1990 and 1986. At the time of graduation, the average 1995 university graduate who borrowed from a government student loan program owed \$12,200 in student loans compared to \$8,800 for the average 1990 graduate and \$7,600 for the average 1986 graduate (in 1995 constant dollars).

Average Amount Owed to Student Loans Programs By Graduates



Source: National Graduates Surveys

The rising debt levels of post-secondary graduates, caused in part by increases in tuition fees, although worrisome, do not necessarily threaten access to higher education. Despite the increase in tuition fees and the rising debt levels of graduates, the economic returns to post-secondary education remain high. Young people do recognize the importance of education in the knowledge-based economy, and full-time enrollment in post-secondary courses continues to rise.

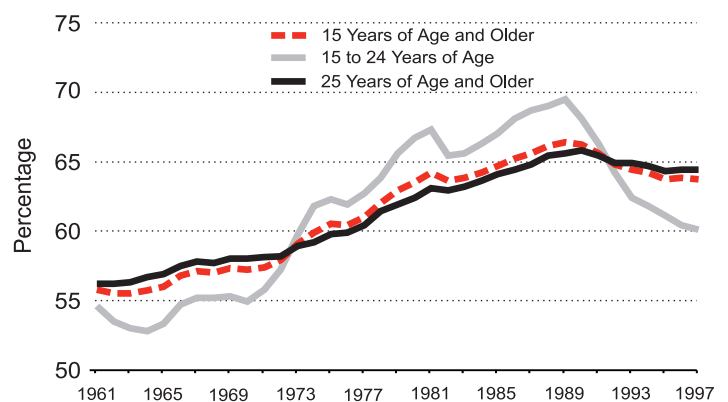
Future Research

In partnership with the Centre for Education Statistics at Statistics Canada, the Applied Research Branch is sponsoring a series of monographs based on the results of the National Graduates Surveys. Results of this research are expected in the coming months.

Is the Fall in the Youth Participation Rate Since 1990 Structural or Cyclical?

Labour market participation rates saw strong growth in Canada between the 1960s and the late 1980s. However, significant drops have occurred since the early 1990s, especially among youth. Indeed, between 1989 and 1997, the overall participation rate fell 2.7 percent while the rate for those aged 15 to 24 fell 9.4 percent. And although the overall decline in the rate stopped in 1995, the youth rate continued to fall until 1997.

Labour Market Participation Rates by Age Group 1961-1997



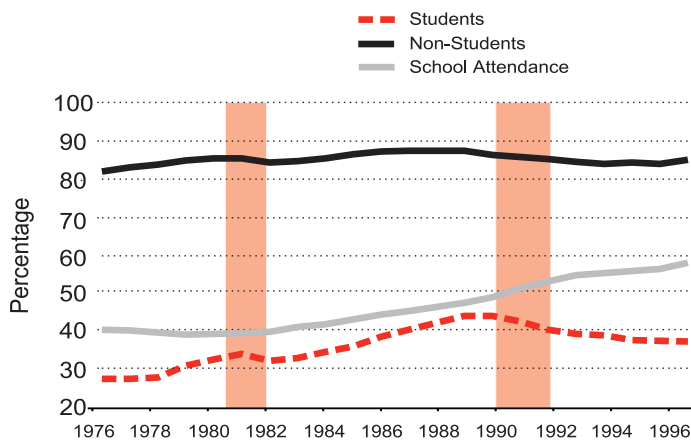
Source: Statistics Canada

Richard Archambault and Louis Grignon, two ARB researchers, focused on the causes of this decline in the youth labour market participation rate in a study that follows up on that

of Philip Jennings, the results of which were presented in the Summer-Fall 1997 issue of the *Applied Research Bulletin*. Jennings had noted that 44 percent of the fall in the youth participation rate could be attributed to a rise in the school attendance rate between 1989 and 1996. Archambault and Grignon attempted to identify the factors that could have prompted the rise in the attendance rate and the fall in the participation rate. By quantifying the separate contributions of cyclical and structural factors, their study provides a better indication of the future pattern of youth participation and school attendance, and also enriches our understanding of these phenomena and how they interact with such social programs as Employment Insurance, social assistance and the minimum wage.

Student and Non-Student Labour Market Participation Rates and School Attendance Rates

15-24 Years of Age, 1976-1997



Source: Statistics Canada, annual 8-month average (September to April)

The approach used by Archambault and Grignon is innovative in conducting separate analyses of the student and non-student participation rates and the school attendance rate, i.e., the percentage of young people aged 15 to 24 attending school full time. Mathematically, we can express the participation rate (pr) as the sum of the student and non-student participation rates (spr and $nspr$) weighted by the school attendance rate (sar): $pr = sar \cdot spr + (1 - sar) \cdot nspr$. These rates behaved differently from 1989 to 1997: the non-

student participation rate fell by 2.3 percent and the student rate fell by 6.7 percent, whereas the school attendance rate posted a 10.5 percent increase. The three variables also seem to react to cyclical fluctuations, though to different degrees and in opposite directions for the school attendance rate compared with the two participation rates.

The original contribution this analysis makes to the study of this issue is its consideration of school attendance as a phenomenon requiring explanation rather than as an exogenous variable used to explain the participation rates. In the model developed by Archambault and Grignon, the decision to attend school is determined by a set of economic and social variables.

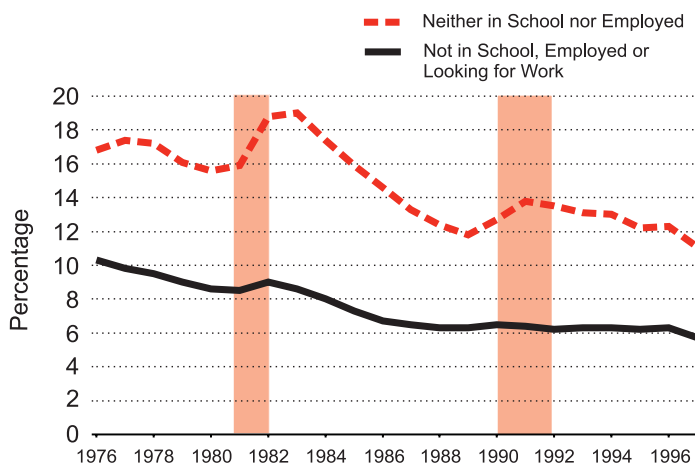
The equations for the student and non-student participation rates and the school attendance rate were estimated for the 15- to 24-year-old group and four demographic groups, men and women aged 15 to 19 and 20 to 24. These estimates were made for the period 1978–1996, using annual time series data for five Canadian regions (Atlantic, Quebec, Ontario, Prairies and British Columbia) and a multivariate analysis applying a SUR (Seemingly Unrelated Regressions) econometric estimation procedure in which the coefficients of each variable were estimated taking into account both the temporal and interregional dimensions of the data. The authors then used the estimated coefficients to simulate the effect of each variable on the participation and school attendance rates.

The results of these simulations indicate that the slowdown in economic activity that occurred in the 1990s would explain half to two-thirds of the fall in the student participation rate, slightly over a third of the non-student participation rate and between one-fifth and one-third of the school attendance rate. Taken together, these three results tell us that 40 to 50 percent of the decline in the participation rate of young people aged 15 to 24 between 1990 and 1996 can be attributed to cyclically weak employment.

The results also suggest that 50 to 65 percent of the young people who left the job market because of the economic situation went back to school. This observation is good news in itself, since the fall in the youth participation rate was

accompanied by a fall in the youth population neither employed nor studying. The number of young people neither attending school full time nor holding jobs dropped from 16.8 percent in 1976 to 11.1 percent in 1997.

Youth Neither in School Nor In the Job Market 15 to 24 Years of Age, 1976-1997



Source: Statistics Canada, annual 8-month average (September to April)

The authors believe that the average real wage and government policies and programs have very little influence on youth rates of participation or on school attendance. The effect of the 4 percent decline in the average real wage from 1990 to 1996 was apparently negligible, and the same applies to social assistance, Employment Insurance and the minimum wage. Taken together, these factors would explain only one-twentieth of the fall in youth labour market participation rates in the 1990s and an even smaller proportion of the rise in school attendance.

Increases in the minimum wage relative to the average industrial hourly wage in several provinces apparently had a more significant effect on the student labour market participation rate than on the non-student rate. The rise in the minimum wage, reducing employment available to students, would thus explain about one-eighth of the 6.4 percent decline in the student labour market participation rate, while the effect on the non-student rate was apparently

nil. The changes made in the Employment Insurance program during the 1990s seemed to have modest effects, explaining no more than 3 percent of the fall in the labour market participation rate among 15- to 24-year-olds. The effects of changes in provincial welfare programs were apparently almost nil.

Though these results enable us to gain a somewhat better understanding of the role various structural and cyclical factors could have played in the changes in the youth labour market participation rate during the 1990s, they cannot claim to explain the fall entirely. Indeed, it is important to be aware that approximately 40 percent of this decline is accounted for by the model's deterministic trend. We do not yet fully understand the nature of the structural forces that pushed down the youth participation rate in the 1990s and we know even less about the nature of the structural influences on the decision about whether to attend school.

Volunteer Work: A Gateway to the Job Market?

We know that volunteer work has always played an important role in social and cultural activity while contributing to community well-being. What may be less well known is the existence of close connections between volunteer work and the job market. At the request of the Applied Research Branch, Ekos Research Associates reviewed these connections using data from the 1997 National Survey of Giving, Volunteering and Participating (NSGVP).

The initial report on these survey results, *Caring Canadians, Involved Canadians: The 1997 National Survey of Giving, Volunteering and Participating*, certainly surprised some observers. It shows that the unemployed and people not in the labour market post a lower volunteer participation rate than the employed. (The rates are 27, 29 and 34 percent respectively.) The survey and report are the results of a partnership involving Volunteer Canada, the Canadian Centre for Philanthropy, Human Resources Development

Canada, the Kahanoff Foundation's research project on the non-profit sector, Canadian Heritage, Health Canada and Statistics Canada.

Volunteering Can Enhance Job Prospects

The Ekos study looks at the motives prompting individuals to do volunteer work. The results indicate that, of the reasons cited, more than 90 percent of volunteers do this work because they believe in the cause they are supporting, while about 22 percent are trying to enhance their job prospects. Compared with non-participants (20 percent) and the employed (21 percent), almost twice the percentage of unemployed (39 percent) do volunteer work for this last reason.

The results also show that young people wanting to enhance their job prospects (54 percent of all young volunteers) are the ones putting in the most volunteer hours, which is not the case with those aged 25 and over.

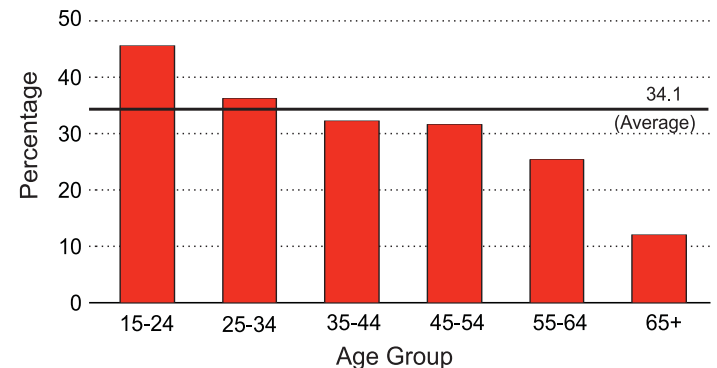
On average, one out of ten employed people believes that participating in volunteer activities helps to increase the chance of success at work. About 13 percent of young volunteers share this view, but the percentage drops in the higher age brackets.

The Employed State that They Acquire Skills in Volunteer Work that Are Useful in Their Regular Work

The Ekos study looks at another facet of the linkage between volunteer work and the job market by focusing on skills acquired through volunteer work and that are useful in their paid work. More than a third of paid workers who also do volunteer work state that they acquire skills that are useful for their jobs, and this percentage increases with the individual's level of education. Also, over 50 percent of volunteers who have jobs and study full time state that they acquire such skills. The study also shows that more young people than older adults acquire new skills useful in employment.

Workers Stating That They Acquire Skills Through Their Volunteer Activities That Are Useful in Their Paid Employment

1997



The Ekos researchers also found that about six volunteers in ten doing this work to enhance their job prospects state that volunteer involvement enables them to acquire skills that are useful in their employment.

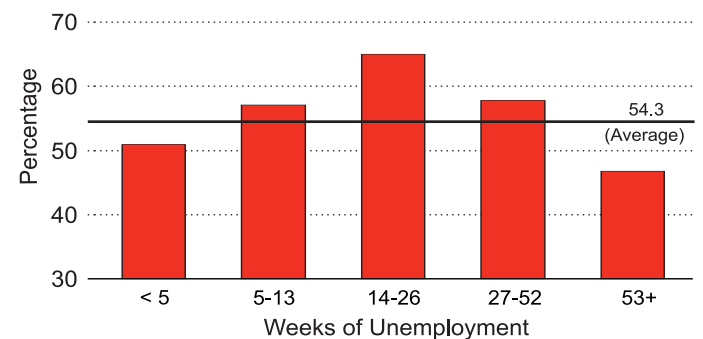
The results therefore indicate that participation in volunteer activities is perceived as an excellent way to acquire skills by people attempting to enhance their job prospects as well as by young people.

A Majority of Unemployed Volunteers Feel that Volunteering May Help Them To Find Work...

The Ekos study shows that more than half of unemployed volunteers think their volunteer activities may help them to find work. The ones who have been out of paid work for 14

Unemployed Volunteers Who Believe That Volunteer Activities May Help Them Find Paid Employment

1997



to 26 weeks are the most likely to feel this way (65 percent), while people who have been unemployed for over a year are the least likely.

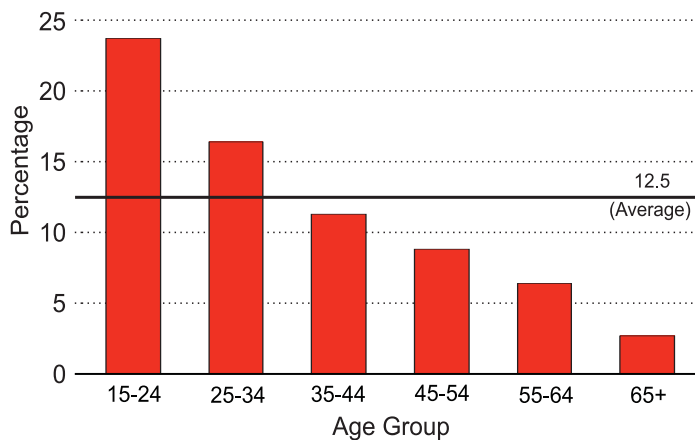
Some 65 percent of young unemployed volunteers believe that volunteering may help them find work. The higher the ages of respondents, the fewer share this opinion.

...And They Seem To Be Right

Since a significant number of unemployed volunteers believe that their volunteer activities may help them find work, the Ekos researchers wanted to know to what extent those finding work attribute this outcome to their volunteer experience. The results indicate that one volunteer in ten states that he/she has already found work through volunteer involvement. This applies to about one-quarter of young volunteers between ages 15 and 24. The statement is inversely linked to age.

Respondents Stating That They Have Already Found Paid Employment Through Volunteer Activities

1997



More than one-quarter of contract or term workers (26 percent), 17 percent of temporary workers, 15 percent of seasonal workers and 13 percent of permanent workers say that they have found jobs through volunteer involvements, though these were not necessarily the jobs they had at the time of the survey.

The percentages of those who found work through their volunteer activities declines inversely with their hourly wages. Thus more wage earners getting less than \$12 an hour make this statement (20 percent) than those with wages higher than \$24 an hour (9 percent).

Youth, full-time students, contract and term workers and employed persons earning under \$12 an hour are the most likely to have already found work through volunteer activities. People starting out on their careers seem to be the ones with the best chances of finding work through volunteer involvements.

Volunteer Work Can Actually Open Doors to the Labour Market

In light of these results, the authors believe that volunteer work may actually open doors to the labour market. Volunteering enables people to enhance their job prospects, acquire skills that are useful in the workplace and, especially among the young, find jobs.

Dropping Out and Working While Studying

Governments are especially interested in measures to curb the school dropout phenomenon, which is not surprising when we consider the importance currently attached to so-called “knowledge-based” jobs. In 1991, some 18 percent of young Canadians aged 20 had already dropped out of secondary school and had not yet obtained their diplomas. It is this factor that lies primarily behind the fact that many young people entering the job market lack the necessary qualifications. It is also generally believed that any policy that can help to cut the dropout rate will be an effective means of improving the youth job market situation. Some of these measures attempt to limit the work done by youth while attending school, as it is often assumed that there is a cause and effect relationship between working and dropping out.

In order to introduce policies to bring about a decline in dropout rates, we have to know exactly what prompts young people to take this route. At Human Resources Development Canada's request, a team of researchers from the Centre for Interuniversity Research and Analysis on Organizations (CIRANO) undertook to analyze the factors influencing the decision to drop out of high school and to work while studying.

To study these issues, the authors used data from the 1991 School Leavers Survey conducted Canada-wide by Statistics Canada in collaboration with Human Resources Development Canada. The national dimension of the survey gave them a better understanding of the roles of macroeconomic and institutional variables in decisions to drop out or work while studying. The survey dealt with young people aged 18 to 20 in 1991 who fell into one of the following three categories: graduate, at school or school leaver. The data from the survey were used to construct an econometric model to explain the determining factors in decisions to drop out of school and to work during the last year of high school. The variables considered included respondents' personal characteristics (sex, learning difficulties, work during education, etc.) and socio-economic profiles (family situation, parents' education, private or public school, etc.), along with various institutional or macroeconomic characteristics serving as environmental variables (legal dropout age, unemployment rate, minimum wage, etc.).

The study's general conclusions are the following:

- ▶ Nothing indicates that working ten hours a week or less while continuing to study represents an incentive to drop out; in fact, acquired work experience seems to smooth the job market integration of those who obtain their high school diploma.
- ▶ Those working over ten hours a week are more likely to drop out.
- ▶ The dropout rate declines when the legal school leaving age is higher.

- ▶ An increase in the minimum wage contributes significantly to a higher dropout rate in high school.

Working While Studying Is Not Necessarily an Incentive To Drop Out

Should we, as some have suggested, limit the number of hours worked while still going to school in order to reduce the dropout rate and lessen the negative impact on school marks? The results of the CIRANO study suggest that the answer to this question must be a qualified one. For many students, working ten hours or less a week is not an incentive to drop out, and the work experience acquired while still studying will even sometimes promote the job market integration of students who will obtain their diplomas. Indeed, the odds of dropping out are lower for these students than for the ones who do not work at all during their education. However, students working more than ten hours a week are more likely to drop out.

Dropout Potential by Number of Hours Worked Per Week

Hours Worked Per Week	Dropout Potential (Percentage)
0	5.2
1-10 hours	1.0
11-20 hours	5.1
21-30 hours	6.9
31-40 hours	15.4

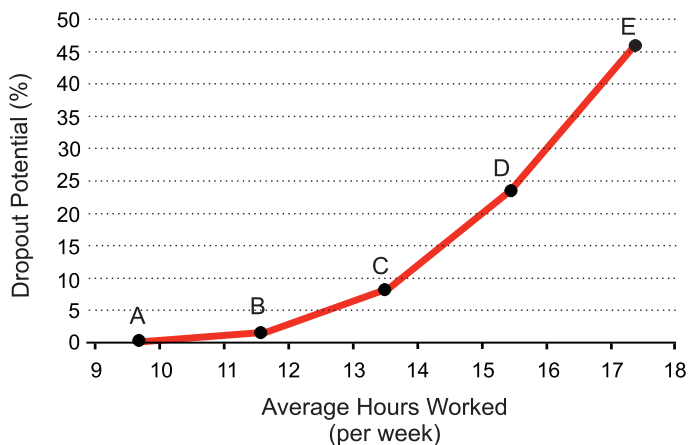
Raising the Legal School-Leaving Age Would Result in a Decline in School Dropouts

The econometric results also show that the dropout rate declines when the legal school-leaving age is higher. Since the 1991 School Leavers Survey was done, all Canadian provinces have raised the legal leaving age to 16, and the authors suggest that this age be set even higher, at 17 or even 18, as is the case in some European countries and American states. This measure would bring the legal leaving age into line with the usual age for high school completion—17 in Quebec and 18 elsewhere in Canada.

Increasing the Minimum Wage Creates Favourable Conditions for a New Rise in the Dropout Rate

The study also highlights the role played by the minimum wage in the decision to drop out. Clearly, the higher the minimum wage, the higher the high school dropout rate. The authors compared the effects of five different minimum hourly wage rates varying from \$2.98 (Wage A on the graphic) to \$4.65 (Wage E) between 1987 and 1991 in constant 1986 dollars. The results obtained with the model show that the average number of hours worked and the dropout rate rise when there is an increase in the minimum wage.

Impact of the Minimum Wage on Dropout Potential and Expectation of Number of Hours Worked



Note: Wage A < Wage B
Minimum wages are in constant 1986 dollars.

According to the researchers, provincial governments create conditions more favourable for dropping out every time they raise the minimum wage. The first to feel the effects of these increases are students who are predisposed to abandon their education either because they have a lesser appetite for studying or because they are very uncertain about the likelihood of successfully completing their senior year. To avoid this pitfall, the authors suggest the use of two different minimum wage rates, one for those aged 18 (or 17) or more and the other for younger persons.

This study forms part of a research program under the heading of the transition between school and the world of work. The next stage, to be conducted by the CIRANO team, will combine the 1991 School Leavers Survey with the School Leavers Follow-up Survey of 1995 in order to study the school “drop-in” and job market integration phenomena. It will then be possible to track the same individuals over a relatively lengthy period and thus analyze the effects of work experience acquired during school on job market integration and establish whether the returners were able to turn their decision to advantage.

Work, Literacy Skills and Schooling

Why do some workers accept jobs that require lower levels of education than they have acquired? Some economists have argued that this may be due to modern-day jobs demanding an upgrading of skills, possibly as a result of technological innovation.

A recent study for the Applied Research Branch by Daniel Boothby shows that workers with a post-secondary education who take jobs that normally require less than their level of education tend to have lower functional literacy skills than workers with the same educational level who work at higher level jobs. Earnings also tend to be lower than those of post-secondary graduates who work in occupations which require post-secondary schooling.

Data from the International Adult Literacy Survey (IALS) show that most Canadian post-secondary graduates have high levels of literacy skills. However, 17 percent of them, predominantly non-university post-secondary graduates, have low levels of literacy skills (level 1 or 2 on the IALS scale). In Canada, 80 percent of university graduates and 60 percent of all post-secondary graduates work in skilled information occupations (see graphic, next page), compared to 25 percent of high school graduates.

Postsecondary graduates with a low level of literacy have a much higher probability of working outside the skilled information sector of the economy than other post-secondary graduates. For example, estimates suggest that the probability of working outside the skilled information sector is 86 percent for a 30-year-old man with a Bachelor of Arts degree and with IALS level 2 in prose and document literacy. If the

same man had prose and document literacy levels of 4 or 5 (the highest), this probability falls to 10 percent.

Boothby concentrates his study on the largest sector of employment for post-secondary graduates—skilled information workers. He finds that earnings are much lower for post-secondary graduates working outside the skilled information sector than for those working in this sector.

Occupational Groupings Based on Knowledge Content of Work

Service Sector (13% of Employment)

Goods Sector (31% of Employment):

Skilled Goods Workers

- ▶ e.g., patternmakers, other craftspeople
- ▶ High degree of knowledge in the production of goods

Other Goods Workers

- ▶ e.g., motor vehicle fabricators, other operatives

Information Sector (56% of Employment):

Skilled Information Workers

Managers

- ▶ Highest level of communications, authority/management skills
- ▶ Second level of cognitive skills

Knowledge Workers

- ▶ Second level of communications, authority/management skills
- ▶ Highest level of cognitive skills

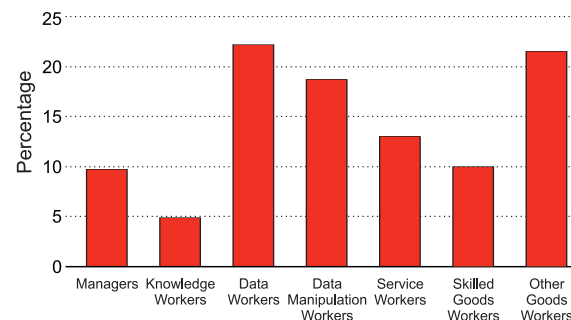
Data Workers

- ▶ High degree of skill in the production or application of knowledge and information
- ▶ The smallest category of Skilled Information Workers

Data Manipulation Workers

- ▶ e.g., clerks
- ▶ Manipulate information in a routine fashion

Canadian Workforce
By Occupational Category, 1994



Sources: Applied Research Branch classification system validated and scored using the Canadian Classification Dictionary of Occupations; computations for the graph are from the International Adult Literacy Survey for Canada, 1996

Boothby defines occupational mismatch as post-secondary graduates working outside the skilled information sector. He finds that the proportion of mismatch is much higher among the small group of Canadian post-secondary graduates with low levels of literacy skills than among those with appropriate levels of literacy skills. Moreover, mismatched post-secondary graduates tend to earn less than other post-secondary graduates. Other research has shown that the same situation occurs in the United States. Exceptions may exist for individual workers, but the study shows that workers generally get the jobs that they can do, and this is usually reflected in their wages.

The author performs a multivariate logit analysis of mismatch. It shows that mismatch is also associated with characteristics other than low literacy levels. In particular mismatch is less prevalent among workers 45 to 54 years old than among workers 35 to 44 years old, and among workers 35 to 44 years old than among workers 25 to 34 years old. It is also less prevalent among workers with a degree higher than a BA than among those with a BA.

There are several possible explanations of the effects of age on occupational mismatch. One is that the match between qualifications and job requirements improves as university graduates age, either because they acquire additional skills, or because longer periods allow better matching. A second is that older age cohorts faced labour markets which were more favourable for workers with university degrees. A third is that upgrading of the skills required in occupations outside the skilled information sector may also have played a role. A fourth possibility is that university graduates in older age cohorts had higher levels of qualifications. Boothby found indicators that mismatch between educational qualifications and job requirements increased for Canadian university graduates between 1981 and 1991. This parallels the findings of studies in the United States.

Why has mismatch increased in Canada? The evidence examined did not support explanations of increased mismatch as a result of declining skills of university graduates or as a result of increased substitution of graduates to other levels of schooling in skilled information occupations. The likeliest explanation of increased mismatch for university

graduates between 1981 and 1991 is that the number of university graduates grew more rapidly than the level of paid employment in skilled information occupations.

Interprovincial Mobility in Canada

The possibility of free movement from province to province raises interesting questions about the dynamics of Canadian incomes. Until very recently, however, the absence of longitudinal data making it possible to track individuals over time limited our ability to acquire detailed knowledge of the trends and effects of personal mobility within Canada.

As part of an extensive program of longitudinal research sponsored by the Applied Research Branch, a series of studies by Ross Finnie of Queen's University enables us to shed some light on this matter.

Using LAD—Statistics Canada's new Longitudinal Administrative Database—Finnie draws a portrait of interprovincial mobility in Canada between 1982 and 1994, looking at its characteristics, motivating factors and effects on individual yearly earnings, depending on whether or not there is a change of province. The author uses a representative sample of people who were not full-time students, aged between 20 and 54.

The results show that, among men, interprovincial mobility is closely connected with the search for better economic opportunities and seems to feature two distinct groups—economic refugees and high income earners. Among women, the situation is different: we see the first of these groups but not the second. Also, while migration often results in a significant increase in yearly earnings for men, this is not true for women, for whom the results tend more often to be negative. Results also vary on the basis of migrants' ages as well as their provinces of origin and destination.

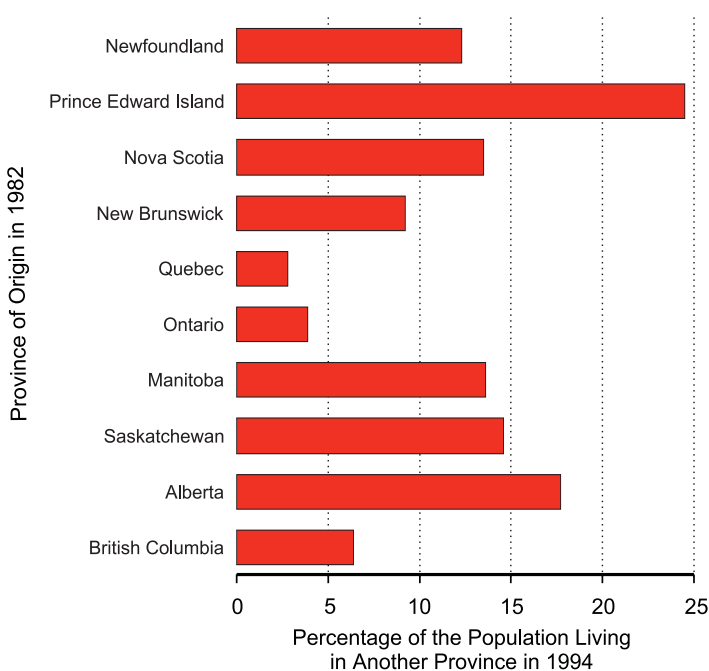
Extent and Direction of Mobility

On the national scale the extent of the interprovincial mobility phenomenon seems to be relatively modest, with just a small number of people changing provinces each year. The author's results also show that even over a 13-year period (1982-1994) the vast majority of Canadians (91.7 percent) remained in the same province. Among migrants, 55 percent changed their provinces of residence only once during the 13 years, while 32 percent migrated at least once before returning to their 1982 provinces of origin and 13 percent changed provinces more than once.

These general results conceal some significant interprovincial disparities. For example, we can see that outflows generally seem to be inversely related to the size of the province, i.e., departures are proportionally more numerous in the smaller provinces, with neighbouring provinces and more westerly provinces being the ones receiving these migrants. For example, the proportions of persons living in Quebec and Ontario in 1982 who no longer lived in their provinces of origin in 1994 were respectively 2.2 and 3.3 percent, whereas this figure was about 25 percent for Prince Edward Island.

Interprovincial Mobility

1982-1994



Economic Factors

The factors influencing the decision to migrate from one province to another are numerous and often interrelated in their effects. The most important factors include those reflecting general job market conditions as well as the results achieved by the individual in these markets.

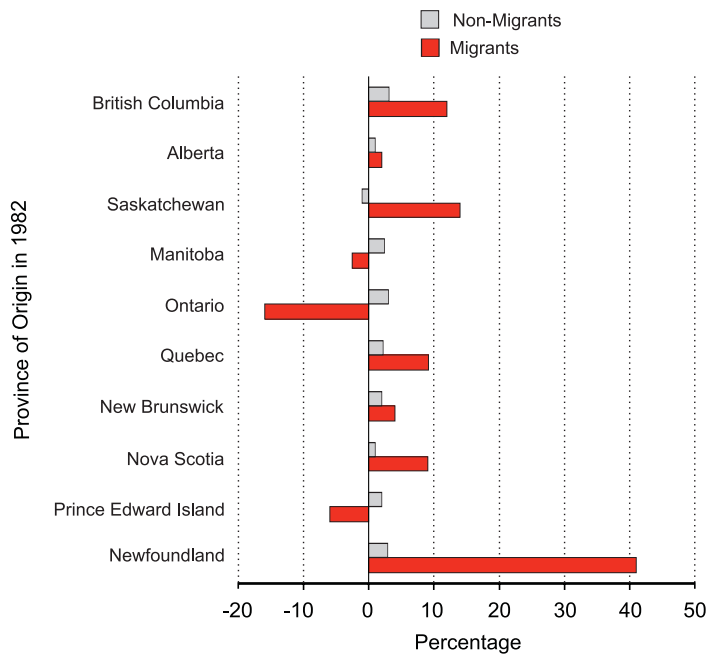
For example, to the extent that high unemployment rates in a province reflect more limited job prospects, this tends to encourage out-migration. Use of an income security program (Employment Insurance or social assistance) or a situation of not having employment income will also positively influence the likelihood of changing provinces.

Receiving income from Employment Insurance, for example, increases the probability of leaving a province by 6 percent for women aged 20 to 24, and up to 18 percent for women aged 45 to 54. The probabilities for men lie between these two extremes. With respect to having no employment income, the positive effect on mobility can go as high as a 30 percent greater likelihood for men aged 45 to 54.

However, we note a contrary trend for young men aged 20 to 24. In this age group, the fact of receiving Employment Insurance income or having no employment income does not translate, as for the other age groups, into a higher probability of leaving for another province. Similarly, though to a lesser extent, young women of the same age with no employment income tend to stay in their provinces of residence.

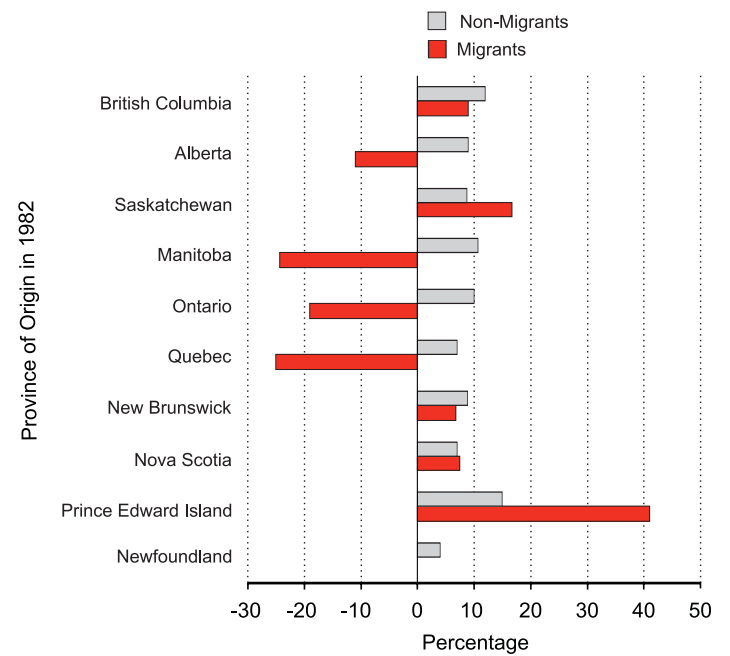
Among men in the labour market we also note a positive relationship between earnings levels and interprovincial mobility. Indeed, except in Alberta and British Columbia, migrating men tend to have higher average incomes than non-migrants. According to Ross Finnie, this phenomenon may be attributable to the transnational character of the labour market for higher-skilled workers or to the advantages (or necessity) of migration for men in higher-paying occupations. The relationship is the opposite for women, among whom non-migrants generally tend to have higher earnings levels than migrating women.

Change in Annual Earnings Men 35 to 44 Years of Age, 1982-1994



Note: Variations depicted above are changes in the annual earnings logarithm

Change in Annual Earnings Women 35 to 44 Years of Age, 1982-1994



Note: Variations depicted above are changes in the annual earnings logarithm

Effects of Mobility on Yearly Earnings

The effect of interprovincial mobility on earnings varies considerably according to sex, age group and province of origin. Mobility has much more significant effects on the earnings of young workers than on those of their older co-workers; these effects are strong and positive for men but weaker and often negative for women. Finally, the effects are generally strong and positive for men leaving the poorer provinces but weaker and often more mixed (sometimes positive, sometimes negative) for men leaving the richer provinces.

Among men, we note that leaving the Atlantic region almost always has a positive impact on income, with increases that can even reach 106 percent in the case of men aged 20 to 24 leaving Newfoundland. Leaving Quebec also has a positive and significant effect on the yearly earnings of young men (69 percent for the youngest and 34 percent for the 25- to 34-year-olds). For men leaving Ontario, the Prairie Provinces or British Columbia, effects on earnings are more mixed.

For women, the situation seems quite different. In more than 80 percent of cases, the effects of mobility on earnings are weaker than for men. (The effects are weaker or negative when they are positive for men and much more negative when they are also negative for men.) Stated differently, the effects of interprovincial mobility on women's earnings are just over 50 percent more likely to be negative than positive. This figure stands at just under 30 percent for men. These results may suggest that a significant number of Canadian women follow their husbands in the quest for better economic opportunities. The data analyzed by Finnie unfortunately, have nothing to tell us about the validity of this potential explanation.

In short, from 1982 to 1994 interprovincial mobility seems to have favoured men over women in the 35-44 age group, at least in terms of its effects on their yearly earnings.

Seasonal Workers: What Is the Situation in New Brunswick?

The issue of seasonal work has long attracted interest. Indeed, as early as 1933 Simon Kuznets, a Nobel laureate in economics, published a book on seasonality in the economy. In it he stated, for example, that seasonal variations had significant and costly implications for resource allocation.

Closer to home, Human Resources Development Canada (HRDC) in 1995 published a report produced by the Working Group on Seasonal Work and Unemployment Insurance. Among other things, the study acknowledged that “seasonal employment needs to be covered by Unemployment Insurance.” It also argued for the need to “take into account the profound effect of UI changes on communities dependent on seasonal jobs.” This report was the result of extensive consultation with members of communities where seasonal work played a major role, as well as public servants and experts in the field. It was produced to further our understanding of the nature of seasonal work.

Three HRDC economists, one of whom works in New Brunswick, have focused on the problem of seasonal workers by analyzing the results of a new Seasonal Workers Survey in that province. The study paints a detailed portrait of seasonal work and workers there. In particular, it enables us to see exactly which industrial sectors rely the most on seasonal employment and the main socio-economic characteristics of seasonal workers. The study also highlights some of the factors that seem to affect the job prospects of seasonal workers.

Who Are the Seasonal Workers?

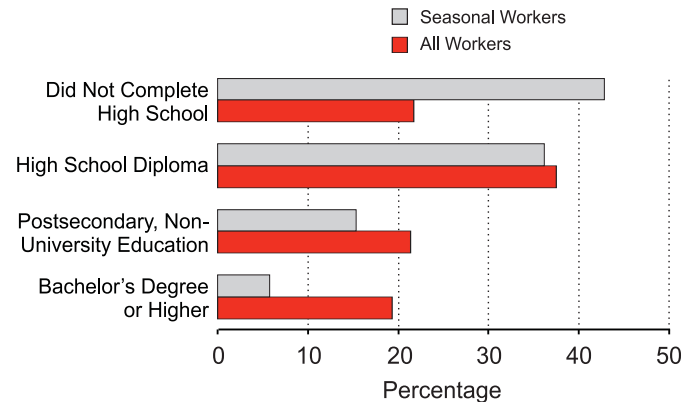
The study’s authors—Francis L’Italien, Samuel LeBreton and Louis Grignon—tell us that approximately 20 percent of New Brunswick workers were seasonally employed at some point in 1996.

As a rule, seasonal workers have lower levels of education than other workers. Indeed, among workers aged 25 or over, nearly 43 percent of those engaged in seasonal work had

not completed their high school education in 1996, compared with only 22 percent for the workforce as a whole. Moreover only 6 percent of seasonal workers aged 25 or more had university degrees, compared with 19 percent for the workforce as a whole.

Education Level of Seasonal Workers and All Workers

25 Years of Age and Older, 1996



Women, representing 37 percent of seasonal workers, generally had more schooling than their male counterparts. The survey also reveals that seasonal workers were younger on average than the workforce as a whole. About 31 percent of them were under age 25 as compared with 17 percent for all workers. Among students, present in large numbers in the 15- to 24-year-old group, seasonal work may be desirable for someone trying to accumulate funds in the summer for a return to school in the fall.

Where Do They Work?

The study also reveals that seasonal jobs are not found solely in the areas of activity usually included among seasonal industries. In fact, almost 50 percent of all seasonal jobs in New Brunswick were in industries other than agriculture, fishing, fish processing, forestry and construction. The socio-cultural, business and personal services sectors alone (excluding accommodation and food services) accounted for nearly 20 percent of the province’s seasonal jobs in 1996.

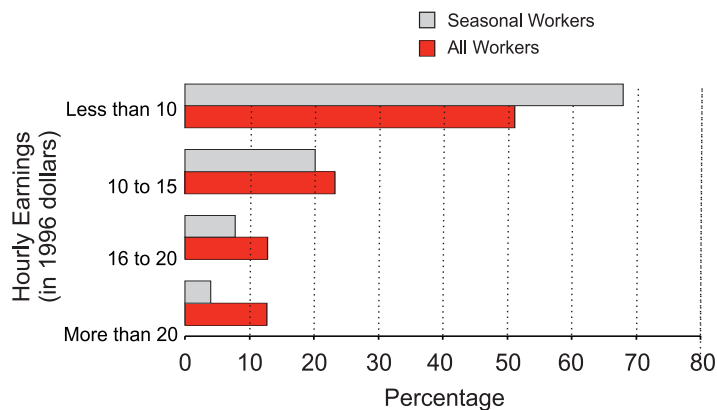
The traditionally seasonal industries nonetheless have a high proportion of seasonal jobs. In 1996, almost 84 percent of the jobs in the fishing and trapping industry were seasonal. The corresponding figures were 83 percent in fish processing, 58 percent in the forestry sector, 50 percent in agriculture and 47 percent in construction. The other industries posted sharply lower percentages of seasonal jobs. The accommodation and food services industry accounted for 20 percent of seasonal jobs, the same percentage as all industries taken together.

Seasonal Workers' Earnings

Seasonal workers hold jobs that are on average less well paid than those of other workers. In 1996, about 68 percent of seasonal jobs in New Brunswick paid \$10 an hour or less compared with 51 percent of all jobs. Only 4 percent of seasonal jobs paid over \$20 an hour compared with 13 percent for all jobs.

Hourly Earnings of Seasonal Workers and All Workers

1996



Job Search

The study also enables us to make the connection between job search and the total number of jobs held by seasonal workers in 1996. The Seasonal Workers Survey data tell us whether seasonal workers engage in job searches when their seasonal jobs are finished. We learn, for example, that three-quarters of those who had had only one job during the year never looked for work after their seasonal jobs ended. Among

those who had more than one job, this figure fell to 50 percent. Note that some seasonal workers had no need to look for work after their seasonal jobs ended. This was the case, for example, with those deciding to retire, go back to school, care for their families or accept a job—seasonal or not—immediately after losing a seasonal job.

Education: Synonym for Success Among Seasonal Workers

There is also a connection between level of schooling and workers' ability to find further employment. As it happens, seasonal workers with relatively high levels of education were more likely to have had several jobs during the year than those with fewer years of schooling. About 23 percent of seasonal workers who had not completed high school had more than one job in 1996, compared with 45 percent of those with university degrees.

Young seasonal workers are more likely than their older counterparts to hold more than one job during the year. If we exclude the 15 to 19 age group, which contains large numbers of students, the older seasonal workers were, the lower was the percentage holding more than one job in 1996. For example, 42 percent of seasonal workers aged 20 to 24 had two jobs or more compared with 23 percent of the 45- to 54-year-olds and only 12 percent in the group aged 55 or older. Note that 29 percent of all seasonal workers held more than one job over the year.

The Seasonal Workers Survey: A Valuable Information Source

The Seasonal Workers Survey data made it possible to get a more accurate picture of seasonal work and seasonal workers in New Brunswick. One of the study's major results was to show that seasonal work was a fairly widespread phenomenon that affected one worker in five in New Brunswick in 1996. Moreover, the incidence of seasonal work extends far beyond those industries generally viewed as seasonal. The study also shows that being young or having a higher level of education enables seasonal workers to find further employment more readily.

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