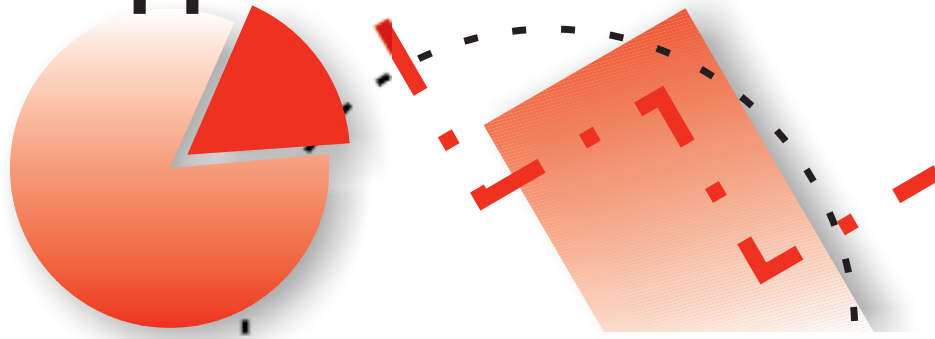


# Applied Research



## BULLETIN

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### Building an understanding of the relationship between children and their communities

**S**tartling differences among school communities in numbers of nearby recreational areas, libraries, and preschool programming were revealed in an Applied Research Branch analysis. Data from that analysis also reveal that those differences extend to the developmental levels of children in the communities. Schools in neighbourhoods with fewer resources have more children who perform poorly on measures of cognitive, social and physical development than schools situated in communities richer in facilities, including libraries, parks and family resource centres.

As part of Human Resources Development Canada’s Understanding the Early Years (UEY) initiative, data were collected to measure the characteristics of communities and their residents. This initiative will increase understanding of children’s first six years of development and learning. North York, Ontario, served as the prototype site for the initiative before it was expanded to additional communities across the country. Implemented in 1999 in North York, the initiative includes three components: the National Longitudinal Survey of Children and Youth (NLSCY), a Community Mapping Study (CMS) and an Early Development Instrument (EDI). This *Bulletin* article focuses on results of two of the instruments used in the initiative, the CMS and the EDI, and the ways in which the research can be used to



inform community decision making. The CMS describes the distribution and range of programs and services available within communities. The EDI, a short teacher-completed instrument, measures the outcomes of children's early development before they enter school. These instruments together with the NLSCY will provide a comprehensive profile of children's development and the characteristics of communities that can influence this development.

## Background on the Early Development Instrument

Drs. Magdalena Janus and Dan Offord of the Canadian Centre for Studies of Children at Risk, McMaster University, developed the EDI. Based on the National Longitudinal Survey of Children and Youth and tested with over 16,000 students nationwide, the EDI will be used to collect information on children in senior kindergarten.

The EDI will allow researchers to:

- ▶ report on populations of children in different communities;
- ▶ monitor populations of children over time;
- ▶ assess the effectiveness of early childhood interventions; and
- ▶ predict how children will do as they progress through elementary school.

The EDI provides information at the population level only and is not appropriate for individual diagnosis. Although results remain preliminary, and no single instrument can be used to help us understand all aspects of children's development, when combined with the CMS and other components of the UHEY initiative, the EDI will provide powerful new information. It will contribute to our understanding of the effects of early community-based influences on children's development, as well as the factors that can shape long-term outcomes.

## Preliminary results from the North York prototype

The North York initiative included all English-language public schools offering a senior kindergarten program within the city. The data presented in this *Bulletin* article represent preliminary results from three schools (identified as A, B and C) that showed highly varied results in order to demonstrate differences among children raised in different neighbourhoods.

Parks, recreational areas, libraries, preschool programs and parenting classes in the neighbourhood surrounding School A are plentiful. Neighbourhoods surrounding Schools B and C—whose children demonstrate behaviours much less consistent with readiness for school on the EDI than School A children—have few of these resources available.

### Community/school comparison

Selected kindergartens, North York, Ontario, 1999

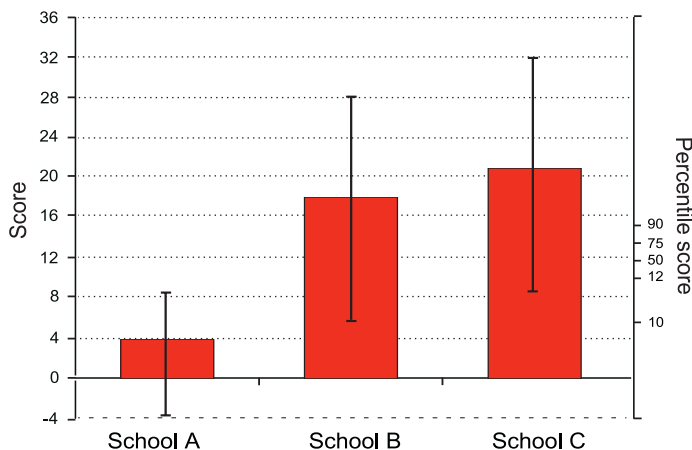
Resources available within communities surrounding schools	School A	School B	School C
Preschool programs (playgroups, child care and daycare)	Yes	None	None
Drop-in, parent and family resource centres	Yes	None	None
Parenting classes, parent relief and family support	Yes	None	None
Enrichment programs	Yes	None	Yes
Libraries, literacy programs and toy libraries	3 to 4	1	1

Note: Results are based on community mapping.

Source: Analysis of North York Community Mapping Study and Early Development Instrument

## School A has lower prevalence of social competence problems

Selected North York English-language public schools, 1999



- Notes:
1. At School A, resources (parks, libraries, preschool programs) are plentiful. The neighborhoods surrounding Schools B and C have fewer resources available than School A.
  2. Children scoring below the 10th percentile are more likely than those scoring at the 90th percentile to be rated by their teachers as being capable of socially competent behaviour, i.e., being respectful to adults and working or playing well with other children.
  3. The vertical lines on the graph represent the standard deviations in the scores.

Source: Early Development Instrument

## Higher social competence for students in School A

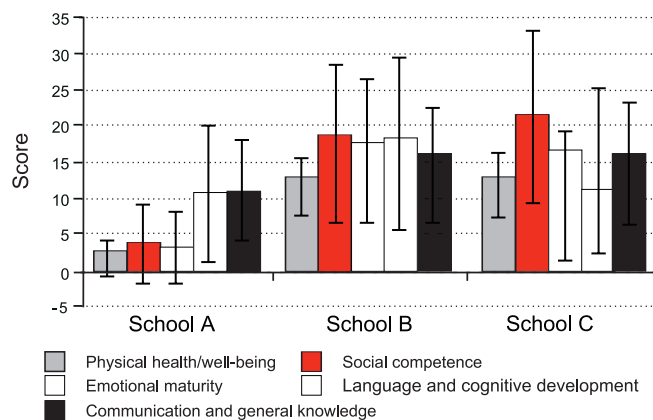
On the EDI, teachers rated the North York kindergarteners' social behaviours. The positive behaviours associated with higher social competency (corresponding to the children in the lowest-rated 10<sup>th</sup> percentile, or those with the fewest problems) were most predominant in children from the catchment area surrounding School A. Those scoring above the 90<sup>th</sup> percentile tended to have regular serious problems in more than one of the following areas: getting along with other children, following classroom routines, respecting adults and other children, self-confidence and tolerance. These children were most prevalent in the catchment areas of Schools B and C. Although there was a great deal of variability in the scores in the catchment areas surrounding each of the three schools (as seen by the standard deviation bars on the graphs), scores in School A showed the least amount of variability.

## Different domains of early childhood development

The analysis compared the three schools in each of five domains: physical health and well-being, social confidence (i.e., social knowledge and competence), emotional maturity, language richness, and general knowledge and cognitive skills. A clear pattern emerged. Children from the community surrounding School A exhibited more behaviours consistent with enhanced development than the children from the areas around Schools B and C (i.e., better scores on each of the components of development). However, the differences among the schools do vary according to the outcome that is examined. This result emphasizes the complexity of children's learning and development. In language communication and cognitive general knowledge domains, for instance, the scores of students in School A, although still better overall than Schools B and C, are much poorer than they are in the other domains. The scores of students in School C in this component, however, surpassed those of School B. The variability in the scores on each of the scales remained high, with the lowest variability seen in School A.

## School A, surrounded by community resources, has better outcomes

Selected North York English-language public schools, By developmental domain, 1999



- Notes:
1. At School A, resources (parks, libraries, preschool programs) are plentiful. The neighborhoods surrounding Schools B and C have fewer resources available than School A.
  2. Schools scoring in the top 10th percentile in the language and cognitive development domain have a predominance of children who are interested in books, reading and writing and who are capable of reading simple words and recognizing numbers and shapes. The individual variation in this scale is quite high.
  3. Vertical lines represent the standard deviations of the scores within each domain.

Source: Early Development Instrument

## Next steps

Data collection on the North York prototype is now complete, and research reports examining the relationships among each of the components of the initiative (EDI, CMS, NLSCY) are available. In addition, data are now flowing from five new pilot sites in Coquitlam/Fraser North, British Columbia; Prince Albert, Saskatchewan; Winnipeg, Manitoba; Prince Edward Island; and the southwestern region of Newfoundland. As more information is collected across the country, it will increase our capacity to build knowledge on the characteristics of communities that impact children's development, monitor progress on improvements in readiness to learn of Canadian children and catalyze action by giving governments, families and communities the research information they need to support families with children.

## The proportion of vulnerable children does not change, but some of the children do

Data from the National Longitudinal Survey of Children and Youth (NLSCY) can now be used to obtain developmental outcomes and to clearly reference benchmark points where children have poor outcomes at specific stages of development. Without data for measuring child development, it was previously possible to predict only broad likelihood of showing poor outcomes. Such predictions used to be based on risk factors like belonging to a single-parent family or living in a low-income household.

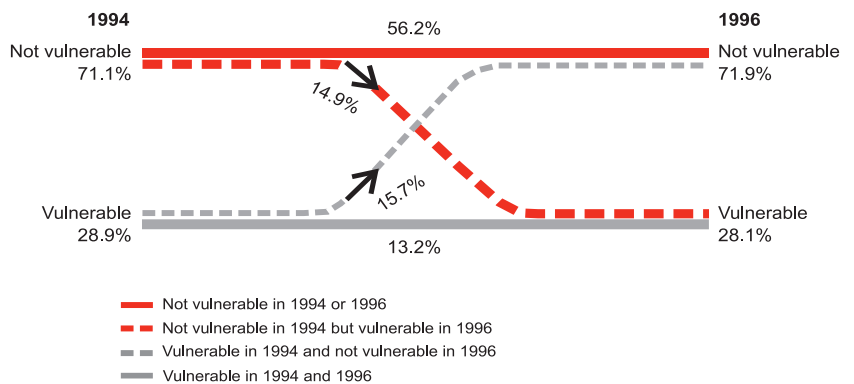
The vulnerability index created by J. Douglas Willms of the University of New Brunswick is a measurement of child development that is based on NLSCY data. Children are considered vulnerable if they have at least one serious learning or behavioural problem. Children are said to have a learning problem when they obtain

poor outcomes compared to others in their age bracket on the Motor and Social Development Test, the Peabody Picture Vocabulary Test or the Mathematical and Reading Skills Test. A behavioural problem indicates the presence of at least one of the following traits: difficult temperament, hyperactivity, anxiety, emotional disturbance, inattention, physical aggression or indirect aggression. The problem must be so serious that the child is unlikely to overcome it without adult intervention. Vulnerable children show considerable developmental delay compared with most children their age.

## Vulnerability is not a permanent state for most children

Analysis shows that 56 percent of children do not show any developmental delays after the first two cycles of the NLSCY and that the prevalence of vulnerable children (approximately 28 percent) does not change after two years. However, the vulnerable children do not remain the same from one cycle of the survey to the next. In fact, by the second cycle, 16 percent are no longer vulnerable and 15 percent have become vulnerable. Finally, 13 percent remain vulnerable over the long term. The important fact that emerges from these results is that the majority of children (87 percent) are not permanently vulnerable; most children manifest positive development or are vulnerable in only one of the two cycles.

### A dynamic view of vulnerable children



Note: Children are considered vulnerable when they have at least one serious learning or behavioural problem.

Source: National Longitudinal Survey of Children and Youth, 1994 and 1996

A number of factors determine whether or not a child is vulnerable. Examples include personal characteristics (e.g., gender); family characteristics (income, mother's education, belonging to a single-parent family, parenting practices and family stability); and community characteristics (neighbourhood poverty). A book by Willms entitled *Vulnerable Children* will use NLSCY data to explore the effect of these risk factors on Canadian children and the implications in terms of public policy.

Generally, children in low-income households are considered at risk, even though many of them develop just as well as children in high-income households. The association between family income and child development outcomes can be analyzed using data from the NLSCY.

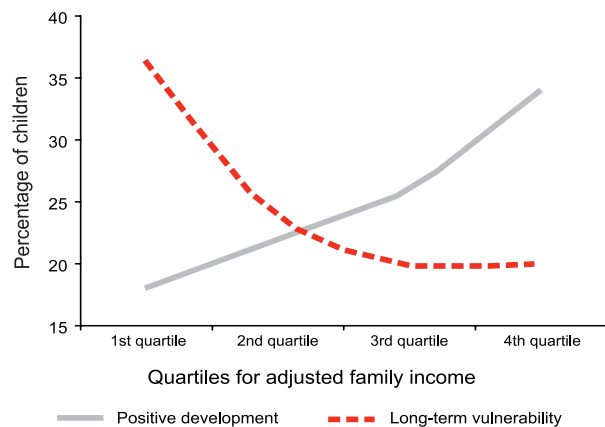
### The positive effect of family income is not of paramount importance

At first glance, there appears to be an association between family income level, adjusted for the number of people in the family, and child vulnerability after two cycles of the NLSCY. It seems that the higher the adjusted family income, the less likely a child is to have developmental problems. The differences are particularly striking in the lowest and highest quartiles of adjusted family income. Thirty-four percent of children with no developmental delays live in households with adjusted family income in the highest quartile, compared with 20 percent of children with long-term vulnerability. Conversely, 18 percent of children with no developmental delays live in households with adjusted family income in the lowest quartile, compared with 36 percent of children with long-term vulnerability.

However, most children with long-term vulnerability (64 percent) live in households in the three highest quartiles of adjusted family income. The positive association between income and child development thus does not seem so strong. It is possible that the effect of family income on child development is felt mainly when family income is low. In actual fact, the mechanisms by which family income affects children's development are still unknown.

### Children showing positive development and vulnerable children

By family income level



Notes: The quartiles for family income are calculated on the basis of the 25th, 50th and 75th percentiles for family income adjusted for the number of people in the economic family. Here, family income corresponds to the average adjusted income (in 1992 dollars) for cycle 1 and cycle 2 of the survey. 1st quartile: under \$12,190; 2nd quartile: \$12,190 to \$19,392; 3rd quartile: \$19,393 to \$28,790; 4th quartile: over \$28,790.

Source: National Longitudinal Survey of Children and Youth, 1994 (cycle 1) and 1996 (cycle 2)

## Tackling persistently high unemployment

**F**inding effective ways of overcoming persistently high levels of unemployment is a significant challenge. The Applied Research Branch (ARB) is testing a novel approach with a new Community Employment Innovation Project (CEIP). The goal of CEIP is to assess a prototype program that can be applied to communities experiencing long-standing unemployment.

The design of this research project grows out of the concept of the "social economy," which is based on community activity and is characterized as a third economic sector distinct from the public and the private sectors. The project will investigate the use of Canada's income security system to encourage work by transfer payment recipients that is linked to efforts by communities to support local endeavours which will build sustainable economies.



The Community Employment Innovation Project will help answer two questions:

- ▶ Can this social economy approach contribute to improving the employability of beneficiaries of income support programs?
- ▶ Can this approach support community development and build social capital in areas where unemployment is exceptionally high?

The Nova Scotia Department of Community Services is a partner with Human Resources Development Canada on this project. CEIP will be implemented, managed and evaluated by the Social Research and Demonstration Corporation.

## Research design

Participation in CEIP is strictly voluntary. Both Employment Insurance (EI) and social assistance (SA) recipients are eligible. Participants will be offered up to three years of stable work at \$280 a week. A total of 1,000 volunteers will be recruited from among EI-eligible clients. A group of 500 will be randomly selected and offered the opportunity to give up EI benefits in exchange for community employment, while the other 500 will return to the EI program and serve as a control group. An additional 500 volunteers will be recruited among SA clients. Half will be randomly assigned to take part in community work; half will serve as the control group. Control group members will continue to be eligible to receive either EI or SA and any services to which they would be entitled on their income support program. Participants may also be entitled to additional support from social assistance, if need is demonstrated.

This research design will allow the incremental impact of the project to be estimated for EI recipients and SA clients. An evaluation will be conducted at the end of the project to determine if such a program represents a cost-effective way to link income support payments to work. The evaluation will also measure community outcomes and the employability of participants compared to those in the control groups.

## Why Cape Breton?

Cape Breton, Nova Scotia, was selected as the site of CEIP for two reasons. First, the high level of unemployment in Cape Breton makes it a good location for assessing CEIP's effectiveness in increasing employability and community development. Second, Cape Breton has a long history of grassroots community involvement, which is a fundamental requirement of the project. Four communities are currently involved: Sydney Mines, Dominion, New Waterford and Whitney Pier.

## Why the social economy?

One of the challenges of finding ways to reduce chronic unemployment is identifying new approaches to tackle the problem. Typically, areas with a history of high unemployment also have a history of previous initiatives which have not achieved the desired outcomes. A second challenge is to ensure that new approaches have practical value. In other words, they must provide meaningful employment for the individual, social benefits for the community, and growth for the local economy. The ideas found within the scope of the social economy have the potential to address both these challenges.

A large body of knowledge and practical experience underlies the concept of the social economy. While definitions of the social economy differ widely, the key characteristic is the creation of a third economic sector distinct from the public and the private sectors. Although the social economy may possess some elements of the latter two sectors, it does not compete with them; the institutions it creates differ substantially from the public and market economies. Since the social economy is designed to meet social objectives that benefit individuals and the whole community, these institutions can promote personal and economic adjustment and strengthen the ongoing life of communities.

## Role of the local community

A key feature of CEIP is the pivotal role played by local community organizations in initiating, designing, implementing and managing the project. Their first step is to prioritize the needs of their community and identify projects that could meet those needs. Each community will do this through the formation of a Community Board representing the community which will be responsible for selecting the projects to be implemented. All projects must address the priorities established by the community. Once a Community Board is established and approved, it will develop a strategic plan reflecting these priorities. The four communities involved in CEIP are currently working toward these goals.

The project is now up and running, having commenced in fall 2000. The progress of CEIP will be the subject of future *Bulletin* articles.

## Recent immigrants have experienced unusual economic difficulties

Immigrants to Canada in the 1990s have not fared as well as previous cohorts of immigrants in terms of earnings and employment outcomes. The difficulties faced by recent immigrants occurred in spite of the fact that members of this group are more educated and have better language skills than the cohorts they followed.

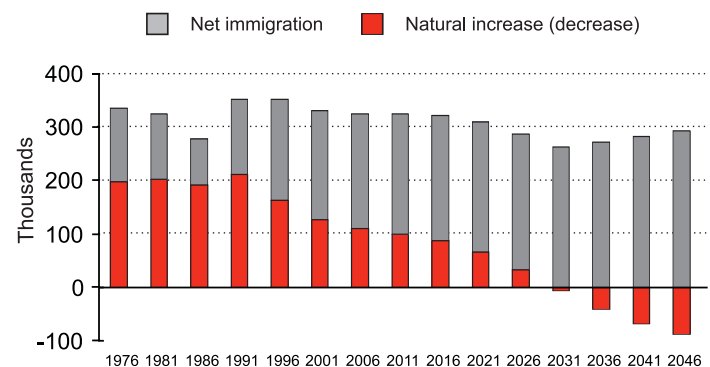
This article draws on research on immigration and immigrant outcomes data in order to review Canadian immigration trends, examine key aspects of the labour market performance of recent immigrants, and explore some possible explanations for these outcomes.

## Significance of immigration to the Canadian labour market

According to the Organisation for Economic Co-operation and Development (OECD), out of 29 member countries, Canada had the fourth highest annual inflow of foreigners relative to its population in 1997 (falling behind only Luxembourg, Switzerland and Germany). In Canada, annual immigration levels rose dramatically at the end of the 1980s and continued to climb through 1993 (256,800 immigrants). The numbers have tapered off in recent years (189,000 in 1999).

Canada also experienced growth in its temporary resident population—people who come without landed immigrant status, including temporary workers, refugee claimants, foreign students, and long-term visitors (six months or more). Similar to the inflow of landed immigrants, a marked increase in the number of temporary residents took place at the end of the 1980s as the number of refugee claimants and temporary workers coming into Canada rose. In 1998, there were slightly more than 250,000 temporary residents in Canada, of whom about 100,000, or 40 percent, had an employment authorization. Those with an employment authorization included 66,800 skilled workers, 28,700 refugee claimants, and 2,700 foreign students.

### Population growth by component



Sources: Historical data from Statistics Canada; projection from HRDC, ARB, using the demographic projection model PMEDS-D

Immigration is an important contributor to the growth of Canada's labour force. From 1991 to 1996, net immigration (measured to account for both landed immigrant and temporary resident populations) provided 71 percent of Canada's labour force growth. Over this period, the immigrant population increased by 14.5 percent—more than three times the four percent expansion of the native-born population. Based on current trends, net immigration could account for Canada's entire population growth by the year 2030, assuming the fertility rate remains at its current level and assuming the annual number of immigrants will equal 0.75 percent of the previous year's population.

### Earnings and employment patterns

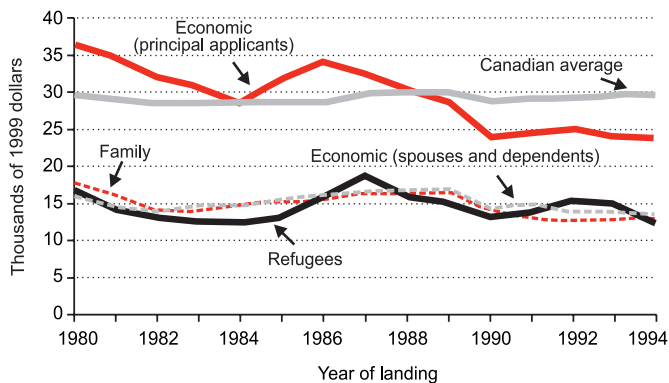
Historically, immigrants to Canada have demonstrated consistent and persistent earnings patterns in the labour market. In general, compared to the average native-born resident, immigrants earn less upon arrival, but their incomes rise rapidly through the initial years. After 10 to 14 years, they catch up to or surpass the Canadian employment earnings average. However, economic principal applicants, immigrants selected on the basis of education and skill, have historically obtained average earnings equivalent to, or greater than, the average earnings of the native born as soon as one year after arrival.

The experience of immigrants who landed in the 1990s contrasts with this historical trend. These newer immigrants experienced significantly lower initial earnings than native-born residents and previous cohorts of immigrants. Lower initial earnings were particularly common for those selected for their skills and those with higher levels of education and knowledge of official languages.

Recent immigrants also have lower rates of employment than those of comparable native-born residents and these rates declined markedly between 1986 and 1996. For example, according to Statistics Canada data, the employment rate of immigrant men aged 25 to 44 who landed within the preceding five years was 81 percent in 1986 and 71 percent in 1996 — a decline of 10 percentage points over the decade. During this period, the employment rate of native-born men of the same age declined only three percentage points, from 87 percent to 84 percent. The data also show that recent immigrant women aged 25 to 44 had an employment rate of 58 percent in 1986 and 51 percent in 1996—a decline of 7 percentage points. For native-born women of the same age, the employment rate actually rose by eight percentage points—from 65 percent in 1986 to 73 percent in 1996.

Canada's recent immigrants exhibit a higher incidence of poverty and greater dependency on social assistance than their predecessors. The percentage of all families (excluding elderly families) falling below the poverty line rose only slightly between 1985 and 1997—from 14.3 percent to 15.3 percent. However, this percentage rose sharply for recent arrivals to Canada—from 23 percent in 1985 to 39 percent in 1997. (These figures include immigrants and temporary residents.) Further, while the percentage of non-elderly families receiving social assistance rose from 7 percent to 11 percent among all Canadian families from 1989 to 1997, it rose from 7 percent to 17 percent among families headed by recent arrivals over the same period. It is unknown how large the impact of refugee claimants is on these outcomes.

### Immigrant employment earnings one year after landing



Source: Citizenship and Immigration Canada, 2000



## Possible reasons behind the decline in economic performance

It is not clear why recent immigrants are experiencing less labour market success than those who landed in the 1980s. Several factors may be at play:

- ▶ **The economic environment of the 1990s.** Economic conditions during an immigrant's first few years after landing may affect long-term performance. Those entering the labour market at a time of high unemployment may be unemployed longer and suffer a permanent dampening effect on their future stream of income.
- ▶ **The absorptive capacity of the Canadian labour market.** The labour market's inability to absorb the inflow of new immigrants may have contributed to the decline in performance. Large numbers of immigrants settled in the late 1980s and early 1990s as the economy was entering a severe recession (1990 to 1991). Inflows continued at this level through the early 1990s—a period of high unemployment and sluggish employment growth.
- ▶ **Different countries of origin.** The profile of recent immigrant cohorts has changed over the past few decades. European-born people represented only one in five immigrants landing in 1996, compared to 57 percent in 1970. Moreover, the proportion coming from Western Europe declined to 10 percent in 1996 from 51 percent in 1970. In contrast, the proportion of landed immigrants from Asia was 57 percent in 1996 as compared with 18 percent in 1970. Existing social and institutional structures in Canada may make integration more difficult for these new immigrants. Difficulties in foreign credential recognition and adaptation to a different cultural and linguistic environment may be particularly severe for these new groups of immigrants. Also, the education and experience obtained abroad by immigrants from these countries may be less relevant to the Canadian labour market or perceived to be so by Canadian employers.

In addition, recent immigrants may face greater discrimination, on average, as the proportion who are visible minorities has risen.

The difficulties faced by recent immigrants appear similar to those faced by other new labour market entrants, particularly youth. Youth and immigrants face similar challenges in the labour market: they lack Canadian work experience, are unlikely to have a well-established network of contacts, and are often under financial strain.

## Future research

The causes of the decline in immigrant labour market performance in the 1990s are not yet fully understood. More research is needed in this area to enable governments to facilitate and speed up the labour market integration of the new immigrant.

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## The longer on welfare, the harder it is to get off. True?

It has traditionally been believed that the longer a person is on welfare, the harder it is to get off. A recent study by Guy Lacroix, professor at Laval University, of welfare patterns in Newfoundland and Labrador between 1986 and 1998 challenges this belief. He finds that, once factors such as level of education, family type, and welfare rates were taken into account, the probability of leaving welfare *did not decrease with the duration of the claim*.

This finding was consistent for both genders and all ages of single claimants as well as for families of two or more persons. It sharply contrasts with earlier studies of welfare spells in Quebec and British Columbia. Those studies, using only descriptive statistics rather than the econometric analysis employed by Lacroix, found that it *was* harder to escape welfare the longer a welfare spell lasted.

## Other factors explain why it's hard to get off welfare

Lacroix's explanation for this surprising result is as follows: "Our results show that once individual characteristics, program parameters and macroeconomic variables are accounted for, the data exhibit no duration dependence.... Individuals are just as likely to exit welfare at the beginning of their stay [as]...at any other point, conditional on the aforementioned variables."

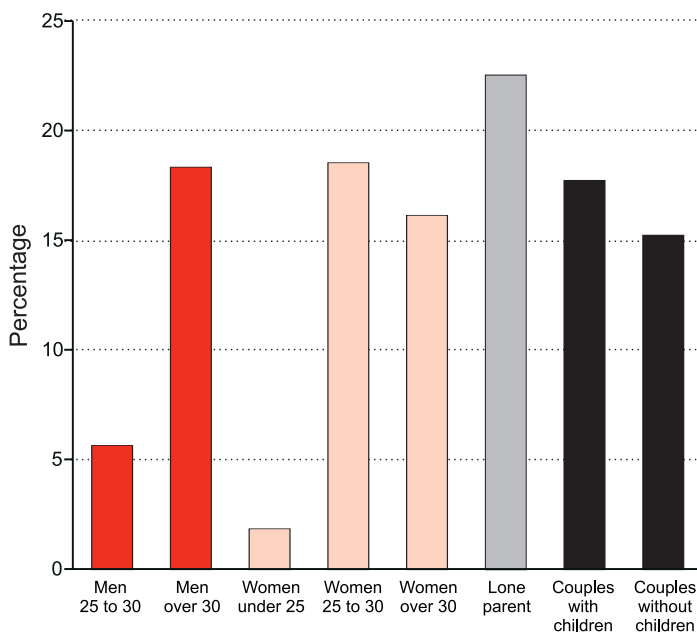
The study was financed by the Applied Research Branch and was facilitated by access to the government of Newfoundland and Labrador's longitudinal Social Assistance Recipients file for the period from January 1986 to June 1998.

## What determines long spells on welfare?

Other findings from the paper shed more light on the personal characteristics and circumstances which Lacroix found made it more difficult for some households to escape from welfare.

## Expectation of having a welfare spell of six years or more

By household type



About one-sixth of the Newfoundland and Labrador caseload was unable to work because of a physical, mental or social disability. Having such a disability predisposed clients to having long welfare spells.

The expected duration of a welfare spell was also long for single women and lone parents and relatively shorter for single men and childless couples. These results are similar to those found in the Quebec and British Columbia studies. The percentage for each household type expected to have a spell lasting more than six years in Newfoundland and Labrador is shown in the graph "Expectation of having a welfare spell of six years or more."

The expected duration of welfare spells tended to fall as education levels rose, while the length of spells *off welfare* tended to increase. An extra year of education increased exit rates more for younger welfare recipients than for those over age 30. This effect was also stronger for young single women and female lone parents than for young men—results also found in the Quebec study.

## Higher unemployment and higher real benefits reduced exit rates

The effect of rising unemployment was to decrease exit rates from welfare. An increase in real welfare benefits had the same effect. In the recession year of 1992 the exit rate in the first six months of the year was only 23.3 percent. In the first six months of 1987 and 1988—two years of relatively low unemployment—exit rates approached 40 percent. Both these results are consistent with those found in the Quebec and British Columbia studies.

Surprisingly, families with more children had *higher* exit rates from welfare. Lacroix suggests this may be because their children would be older and more likely to be in school, making a return to the labour market easier.

## Most have short welfare spells but many return to welfare

While many households have long spells on welfare, this is far from being the norm. The study found that approxi-

mately 75 percent of households starting a welfare spell were off welfare within a year. Unfortunately many later returned to welfare. The average household which received welfare in Newfoundland and Labrador between 1986 and 1998 had about three spells on the program.

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## **Data from Market Basket Measure of Poverty to be available in 2002**

**S**tatistics Canada plans to begin producing data using the Market Basket Measure in the spring of 2002. The data based on this new gauge of poverty levels in Canada will be for the year 2000.

The Applied Research Branch (ARB), on behalf of the Federal/Provincial/Territorial Group on Social Development and Research, has been refining the MBM since its initial development in 1998. Since then, ARB has consulted with the academic community, governments, non-governmental policy groups and advocacy groups. These various groups have helped determine the content of the food, shelter, clothing, transportation, and "other expense" components which comprise the MBM.

### **New measure to be used in National Child Benefit progress report**

The May 1999 first progress report on the National Child Benefit stated that analysts will add the MBM to the repertoire of tools for monitoring the incidence and depth of low income among Canadian families with children. The MBM will be used along with two other Statistics Canada measures of low income—Low-Income Cut-Off Lines (LICOs) and Low-Income Measure. Poverty trends uncovered by these measurement instruments will be used to evaluate the National Child Benefit and associated provincial, territorial and First Nations programs.

### **The changes to the preliminary MBM**

Since the development of the preliminary MBM in 1998, Health Canada has developed a Northern Food Basket, to reflect the different eating patterns of northern communities, and a National Nutritious Food Basket. These will replace the 1989 Agriculture Canada Nutritious Food Basket as the food component of the MBM in northern and southern communities, respectively.

New data from Statistics Canada's 1996 Family Expenditure Survey and its 1997 Survey of Household Spending indicate that reference families (two-adult, two-child families who rent) are almost evenly split between those with two-bedroom and three-bedroom apartments. Data from questions on shelter costs in the Labour Force Survey will be used to determine the median shelter costs for each of these two sizes of apartments by province and community size. The average of these two amounts will be the shelter component of the MBM.

In 1997 the Winnipeg Harvest group and the Winnipeg Social Planning Council developed an Acceptable Level of Living budget guide. The clothing and footwear component of that guide will become the clothing component of the MBM. The Acceptable Level of Living guide is more recent and closer in concept to the MBM than the 1991 Budget Guide of the Social Planning Council of Metropolitan Toronto (formerly the Community Social Planning Council of Toronto) used in the preliminary version.

Persuasive arguments were made during the consultation process for adding a separate transportation component to the MBM. Transportation expenditures represent a large share of consumption, and transportation costs facing households vary significantly. Families living in urban areas served by public transit systems have very different transportation expenditures from those living outside cities who must operate a car in order to have similar access to employment and shopping.

Therefore, in areas served by public transit, the transportation component will be the cost of transit passes for each member of the reference family plus 12 round-trip taxi rides of \$16 each. In areas not served by public transit, the component will consist of the cost of 1500 litres of gasoline, two 8000-kilometre check-ups at a car dealership, mandated levels of automobile insurance and license fees.

***The new MBM will separate out a transportation component.***

Because transportation has been taken out of the category of "other expenses," the percentage to be added for these expenses will be recalculated. "Other expenses" will be calculated based on the relationship between the remaining expenses and the combined expenditures on food and clothing for the reference family at the 15<sup>th</sup> percentile of income. The relationship in the 1998 Survey of Household Spending will be used for this purpose. The 15<sup>th</sup> percentile was chosen because the percentage of four-person families below Statistics Canada's LICOs has not exceeded 15 percent over the past several years.

### **Income data**

A contract has been signed with the Household Surveys Branch of Statistics Canada to collect the necessary data on income. The Branch will deduct the following items from gross income: income and payroll taxes; out-of-pocket child-care costs incurred to enable parents to work for pay; child support and alimony payments made; and out-of-pocket medically-prescribed expenditures for dental and vision care, prescription drugs and aids for persons with disabilities. The remainder will constitute what households have available to purchase the goods and services in the basket.

Discussions with the Small Area Data Division of Statistics Canada have also been initiated with a view to generating statistics for areas not covered by current income surveys (e.g., the territories and aboriginal reserves). Individual income-tax data amalgamated into family data will be used for this purpose.

### **The mandate for creating the Market Basket Measure**

In 1997, Canada's ministers responsible for social services mandated the Federal/Provincial/Territorial Working Group on Social Development Research and Information to develop a new measure of low income in Canada to complement existing measures. The new measure was to:

- more accurately reflect provincial and community differences in living costs;
- embody the cost of a stable standard of living, rather than one which would fluctuate with average or median levels of income or consumption; and
- be transparent in the standard of living it represented and thus be more understandable to ordinary citizens.

The Market Basket Measure (MBM) was developed in response to this mandate. The MBM was to embody the cost of purchasing a market basket of goods and services including food, shelter, clothing and footwear, personal care, household needs, furniture, telephone service, transportation, reading, recreation, entertainment and school supplies. There would be distinct components for each of the first three items. In the preliminary version of the MBM, the cost of the other items was accounted for by a multiplier equal to 60% of the combined cost of the food and clothing and footwear components.

(See the Summer-Fall 1998 issue of the *Applied Research Bulletin* for a description of the initial development stages of the MBM.)

### **Coordinating data collection**

A contract has also been signed with the Prices Division of Statistics Canada to measure the cost of the basket components for food, clothing and transportation. Since

the year 2000, the Prices Division has calculated these components in several communities of different sizes across Canada, including at least one centre in each province and territory. This information, plus the data on shelter costs from the Labour Force Survey and the “other expenses” multiplier, will provide the information necessary to determine MBM thresholds in each province and territory.

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*The MBM's components will be calculated for Canadian communities of different sizes.*

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The Applied Research Branch of Human Resources Development Canada is coordinating input from these divisions of Statistics Canada on behalf of the Federal / Provincial / Territorial Group on Social Development and Research.

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## **How human and social capital contribute to economic growth and well-being— Highlights of an HRDC/OECD symposium**

**A** sharp disparity has existed in economic growth rates across Organisation for Economic Co-operation and Development (OECD) countries in recent decades. The consequences of this disparity show up in differing performances in employment and prosperity. Added to this is a concern about how the fruits of economic growth are allocated within and between present and future generations. Signs of growing income inequality, exclusion of particular groups and increased social dysfunction are worrisome. Recent developments like these pose a challenge to governments and civil society in general.

In this context, the OECD and Human Resources Development Canada (HRDC) hosted an international symposium of experts in March 2000 to explore how human capital and other types of social assets — including what

has come to be known as social capital — may contribute to growth and well-being. The symposium achieved several specific milestones:

- ▶ It brought together a number of different perspectives and disciplines to analyze the contribution of human and social capital to economic growth, productivity, social cohesion and human well-being.
- ▶ The symposium situated the discussion of economic growth in a wider social context. It highlighted the various human and social capital antecedents of growth as well as the broad “market” and “non-market” social returns to investment in lifelong learning.
- ▶ It clarified concepts and relationships in the area of human and social capital and assessed the role of public authorities in learning, social programs and labour market responsibility.
- ▶ It drew on the work already carried out by the OECD on human capital investment to identify possible new areas of research, data development and policy analysis.
- ▶ It linked the experience of Canadian researchers and policy advisors in the human and social capital spheres to international comparisons and analysis.

### **The effects of social capital on social and economic outcomes**

A number of concepts relating to social features of nations and ways of linking these concepts to growth and well-being were presented and debated at the symposium. Many presenters emphasized the importance of social institutions and the social context in achieving both economic and social objectives. That said, however, many participants preferred to focus the discussion of social aspects on the narrower definition of social capital developed in sociology. Accordingly, a much-favoured definition of social capital is “norms and networks that facilitate collective action.” This definition includes the networking capacity of individuals, as well as the ability of a society’s members in general to deal with each other.



Intuitively, the basic idea of social capital is that one's family, friends, and associates form an important asset which — along with more standard human capital — may constitute an independent factor affecting one's productivity and well-being.

***Social capital  
may have a  
payoff—lower  
transaction  
costs.***

"Trust" was a focal point in many discussions of social capital. Much of the theoret-

ical reasoning supporting the idea that social capital may have a payoff — in terms of lower transaction costs, for example — is based on the fact that trustworthiness among members of a society permits business and social dealings to respond efficiently to changing circumstances. The level of trust in a community is perceived by some experts as a product of the "norms and networks." As a result, estimates of trust have often been used as measures of social capital. Not all the experts agreed to consider trust as social capital, although most accepted to keep the notion of "trust" centre stage. Moreover, the experts did not agree on the importance of private investments in "norms and networks" in the production of "trust" or similar social assets. Other important contributors to the concept of trust clearly are formal non-market social infrastructures such as a legal protection system, social insurance and assistance programs, health and education institutions and programs, as well as a fair and well-administered tax and transfer system. In fact, some of the experts at the symposium noted that formal public infrastructures might constitute better tools for society to achieve certain goals than would "norms and networks."

Several papers reported existing empirical evidence on the link between various measures of social capital and social and economic outcomes. The evidence is generally more clear cut on social outcomes than economic outcomes, although there is now an impressive body of results confirming the importance of social capital in many different domains. For example, Robert Putnam of Harvard University has explored interstate differences in social capital—as measured in association memberships, political activism, and

volunteering, for example. He found that such variables are positively correlated with educational performance and child welfare and negatively related to tax evasion, crimes of many types, health problems and mortality. Michael Woolcock of the World Bank reported on urban studies showing that incidence of crime is lower and employment prospects better where density of social networks is greater. From an economic point of view, using country-average "trust" as a proxy for social capital, Stephen Knack of the World Bank provided evidence of a positive and significant relationship between economic growth and the level of trust. However, the relationship becomes insignificant when the sample of countries is restricted to the OECD.

### **The effects of human capital on social and economic outcomes**

The positive association between human capital and favourable social and economic outcomes for individuals is well recognized among analysts and policy makers (using the traditional definition of human capital as "knowledge, skills, competencies and other attributes embodied in individuals"). There is, however, still limited empirical evidence on the impact further human capital investments may have on aggregate economic performance in OECD countries. Robert Barro of Harvard University, for example, reported that the fraction of males having at least a high-school diploma has a sizeable impact on the GDP growth rate in developing countries but a much more modest effect in OECD countries. Many participants at the symposium agreed that human capital measurement problems are important and may well constitute the main reason for the lack of a strong empirical relationship between aggregate growth and human capital in cross-country studies.

Several experts at the symposium presented evidence suggesting that, while human capital — specifically education — produces important private market benefits, it also generates substantial non-market benefits. Evidence reported showed that human capital has an impact on a wide variety of aspects of life, such as one's health, the health of one's spouse, as well as one's participation in society (the social benefits of better participation resulting



in less conflict and crimes). Empirical estimates reported by experts at the symposium suggested that non-market benefits to society may be as important as the private market benefits accruing to those who invest in education.

### **Nexus between human and social capital**

Discussions at the symposium exposed the close association between human capital and social capital. Social capital embodies norms and values which are influenced by education and training systems. At the same time, social assets facilitate learning in different settings (within families, communities and private-sector organizations, for example). At the individual level, a tight relationship between measures of human and social capital exists. Although experts were careful not to suggest a formal causal link between education and social capital at the individual level, many of them were prepared to accept the hypothesis.

The association between the concepts of human and social capital was made most obvious when participants began discussing the sources of investment in human and social capital by individuals.

Edward Glaeser of Harvard University for example presented a model that extends human capital investment theory to investment in social skills and social interactions by individuals. According to this approach, the returns from investing in local networks are higher the lower the probability of moving and the greater the number of remaining years of life span. The link between home ownership and social capital represents in part a lower expected probability of moving, coupled with the fact that the value of houses is linked to the quality of the surrounding community, providing the homeowner with greater incentive to invest in social capital. As another example, people with more education are far more likely to be involved in their communities, perhaps because they have longer horizons. The links with education are equally strong for trust and memberships across states and countries.

### **Research gaps and public policies related to human and social capital**

Symposium participants clearly rejected any serious attempt to draw specific policy recommendations from the discussions and evidence presented. Most feel there are still too many unresolved issues.

That said, these unresolved issues raised fundamental policy questions about the effectiveness of existing policies in OECD economies. For example, although the micro-level evidence on the effects of human and social capital points to large gains for individuals, at the aggregate level the benefits for economic growth are not clearly apparent, especially for OECD countries. This difference may be related to measurement problems, but not necessarily. It is possible, for example, that individuals benefit from higher education because of their relative positions vis-à-vis others and not because education is a worthy investment for society. Another example arises from the point made by many speakers on the growing importance of informal learning and the current lack of knowledge about the skills and benefits that this type of learning produces. Several participants found too much emphasis on the formal processes of learning and earning credentials. Further, the absence of a well-developed theoretical framework of social capital creates a major difficulty for social policy advocates

***Links are weak between economic growth and human and social capital in OECD countries.***

in their push to develop public policy recommendations.

As already noted, there seems to be only weak empirical linkage between economic growth and human and social capital investment at the aggregate

level in OECD countries. Symposium participants were divided on the possible reasons for this weakness. Further data development and research may reverse this finding; however, as pointed out by many at the symposium, a weak linkage does not mean there are no benefits. Investment in human and social capital may raise the *levels* of per capita output and, as shown in many of the papers, of a wide

range of non-market outcomes. Measuring social progress and well-being is about measuring not only economic outcomes but also non-market outcomes.

Proceedings of the symposium will be published in 2001. In the meantime, additional information on the symposium is available at the Applied Research Branch website (<http://www.hrdc-drhc.gc.ca/arb/conferences/oecd>).

## **Aging of the population to exert pressure on Canadian labour market**

**P**opulation aging will confront many countries, Canada included, with new economic and social challenges over the next three decades. The aging of the population will cause structural change in consumer and government expenditures. Reallocation of the productive elements of the economy, including major labour-market adjustments, will be required. However, since the labour market is flexible and the adjustments will be taking place over the long term, Canada is relatively well positioned to confront these challenges.

These are the main findings of an Applied Research Branch study of the implications of population aging on the Canadian labour market.

### **Aging already causes pressure on the labour market**

Judging from observations over a 15-year period, the authors note that population aging already exerts some pressure on the labour market. In fact, an examination of how the working population evolved between 1986 and 1996 shows generalized aging, with a higher average worker age and a higher proportion of workers aged 45 and over. There were also significant differences in aging among the various industries. The service sector aged especially

quickly—nearly three times faster than in the rest of the economy.

### **The aging of the population will lead to significant economic impacts**

The ARB study demonstrates that Canada will experience increasingly weaker population growth by 2030, assuming that the fertility rate remains similar to its current level. Population growth will diminish by half—from 1.2 percent average growth in the 1990s down to 0.6 percent in 2030. In fact, this decline in growth and the change in composition of the population will have considerable economic impact on demand for goods and services, and consequently on the industries which produce them.

- ▶ **An aging population will spend more on personal services.** Total consumer expenditure levels are expected to experience weaker growth, which will reflect the low population growth and the fact that per capita consumption levels tend to diminish starting at age 50. Moreover, an older population would tend to consume fewer durable goods (furniture, housing, automobiles, etc.) and more services (especially personal services). Such a consumer reallocation would normally be followed by productive resource reallocation from the goods sector to the service sector. An analysis of services expenditures according to age suggests a displacement from which the public transportation, tourism, health, and social service sectors in particular will profit.
- ▶ **Governments will spend less on education and more on health.** The dropping birth rate will have a negative impact on education expenditures. By contrast, the rising number of older persons will push further already rising health costs. The net impact on public finances is difficult to determine and will depend on governments' capacity to manage and contain the upwards pressure on health costs. ARBs study postulates that the decline in education expenditures will not be sufficient to finance the potential growth in health expenditures resulting from population aging.

## Repercussions of the aging population on the labour market

The three principal changes in the labour market which the aging of the population will engender are as follows:

▶ **The participation rate will fall significantly.** Since labour market participation diminishes with age, population aging will lead to a drop in the proportion of available workers, and thus the labour market participation rate will fall. However, the higher education level of the next generation of older workers and the greater proportion of self-employed among them may reduce somewhat the negative impact of population aging on the participation rate. ARBs study estimates that these two factors alone will contribute

to reducing by half the negative impact of population aging on the participation rate.

▶ **Lower population and labour-market participation growth rates will exert downward pressure on production and employment growth.** Over the next three decades, slower population growth and a lower labour market participation rate will reduce the potential for growth in the Canadian economy and thus in employment. Using a projection model, ARB forecasts a production growth of 2.8 percent as the millennium arrives which will drop to 1.4 percent by 2025. This result is largely attributable to the projected slowdown of labour force growth from 1.9 percent on average in the second half of the 1990s to 0.4 percent by 2025.

### Profile of the workforce by industry

	Percentage of workers aged 45 or older		Average age of workers		Average retirement age
	1986	1996	1986	1996	1993-97
<b>Primary industries</b>					
– Agriculture	43.3	44.7	42.0	42.9	67.1
– Other	25.0	30.8	36.5	38.7	63.7
<b>Secondary industries</b>					
– Manufacturing	27.9	30.6	37.2	38.7	62.2
– Construction	28.2	31.1	36.9	38.7	64.7
– Utilities	29.2	33.1	38.2	40.2	57.8
<b>Tertiary industries</b>					
– Retail trade	23.7	24.4	34.0	34.6	64.2
– Wholesale trade	25.5	28.5	36.3	38.0	63.3
– Finance, insurance and real estate	25.1	33.3	36.9	40.0	62.1
– Health and social services	26.1	34.1	37.3	39.8	60.3
– Business services	23.5	29.9	36.4	38.6	64.7
– Other services	22.3	23.4	33.3	34.1	64.7
– Transportation and storage	31.7	36.3	38.7	40.6	61.7
– Education	31.2	43.0	39.7	41.4	59.2
– Provincial public administration	27.5	38.6	38.1	41.3	58.3
– Federal public administration	24.0	30.2	36.3	38.3	58.2
– Municipal and other public administration	28.2	33.0	37.4	39.4	58.9
– Communications	24.5	28.6	36.9	38.7	58.3
<b>All industries</b>	<b>26.9</b>	<b>30.9</b>	<b>36.7</b>	<b>38.2</b>	<b>61.6</b>

Sources: 1986 and 1996 Censuses; Labour Force Survey; Statistics Canada, "Measuring the Age of Retirement," *Perspectives*, Summer 1997, 75-001 XPE

► **The reduction in population growth and the change in the nature of consumption will produce a reallocation of resources to the health, social services, transportation and tourism sectors and to construction of multiple-dwelling units.** Certain industries, notably in the service sector, will benefit from the aging of the population. Undoubtedly, population aging will raise the demand for services and thus employment in the health and social service sectors. The transportation industry will benefit just as much, from growing demand for public transport and from shifting tourist requirements. On the other hand, employment growth in other service sector industries, commerce and finance for example, will experience a distinct drop because of both population aging and stronger productivity in these industries.

In the goods sector, employment growth will decline for manufacturing and construction. In the manufacturing

### Employment growth by sector

In percentage

	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019	2020-2025
Agriculture	1.0	0.7	-0.3	-0.4	-0.6	-0.6
Other primary sectors	-0.9	-0.2	-0.6	-0.4	0.1	0.5
Manufacturing	2.3	1.5	1.1	0.5	0.7	0.6
Construction	2.5	2.7	-0.4	0.6	0.6	0.6
Transportation and storage	0.8	1.1	1.2	0.8	0.7	0.7
Trade	1.9	1.2	0.9	0.3	0.2	-0.1
Finance, Insurance, real estate and leasing	-0.3	1.2	0.2	-0.6	-1.0	-1.8
Personal. business and community services	2.8	1.9	1.4	0.6	0.5	0.6
Public administration	-0.2	1.0	0.9	0.8	0.7	0.7
<b>All industries</b>	<b>1.9</b>	<b>1.5</b>	<b>1.0</b>	<b>0.4</b>	<b>0.3</b>	<b>0.4</b>

Source: Human Resources Development Canada, Applied Research Branch, 1999 Macroeconomic Reference Scenario

sector, a transfer of labour is expected, from the automobile, food, drink, tobacco and furniture sectors to transportation materials. In the construction sector, there will be an increase in housing starts for multiple dwellings.

### Favourable job prospects in health and social services management and in certain trades

Job prospects will improve greatly in the future for managers, mostly due to the high retirement rates. In fact, 41 percent of managers are now 45 years of age or older, compared to 31 percent for workers overall. Pressure on the labour market is particularly strong in the health, education and community service sectors where 59 percent of management workers are 45 or older.

Conditions will probably improve just as much for the trades and for the transportation, machinery, manufacturing and processing sectors. Two factors might explain this improvement. Employment in manufacturing and construction will experience relatively strong growth, and retirements will account for an increasing portion of new job openings.

Certain professions will be subjected to worsening conditions. This is especially the case for primary-sector professions and for sales and services. Weak employment growth in these two sectors may partially explain this deterioration. Also, pressure to replace workers in these two industries is not high. In the agricultural sector, the average retirement age is relatively high whereas it is very low for sales and services workers.

### The Canadian labour market should be in a good position to manage the adjustments resulting from the aging of the population

ARBs study sheds light on some of the industry and career-level labour market adjustments which will be required as a consequence of population aging over the course of the next three decades. Since these adjustments will take place over a long timeframe and since the Canadian labour market has a strong tendency to self adjust, there is no need at this stage to suggest governmental intervention or legislative changes.

The ARB study, however, does permit us to identify some of the factors affecting the labour market that require deeper analysis. Over the next few months, ARB will pursue this research. The objective of the analysis will be twofold: to explore further the impacts of population aging at the intergenerational, professional and regional levels; and to examine if it might be possible to ease the falling labour market participation rate, by better comprehending the factors which influence the individual's decision to retire.

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## Job Futures 2000—What's new for the 21<sup>st</sup> century?

**T**he Applied Research Branch (ARB) recently released the 2000 edition of the national labour market reference tool *Job Futures*.

One of the key objectives of *Job Futures 2000* is to provide Canadians with reliable and relevant national labour market information so that individuals can make well-informed career and educational choices. *Job Futures 2000* achieves this goal by informing readers about present and future opportunities in the Canadian labour market and about links between educational decisions and expected future labour market outcomes.

*Job Futures 2000* constitutes one element of the strategy developed by the Government of Canada to prepare Canadians for the labour market of the 21<sup>st</sup> century. It reflects the commitment made in the 1999 Throne Speech to help Canada's youth realize their potential by providing them "with career information and access to learning and work opportunities."

### Job Futures 2000: Improvements to respond better to needs of Canadians

To help ensure that *Job Futures* meets the educational and career planning needs of Canadians, the ARB commissioned a detailed needs assessment of various client groups. In response to the feedback received, via focus groups,

interviews, and website analysis, the year 2000 edition of *Job Futures* has been modified and expanded.

The national edition of *Job Futures 2000* is a suite of labour market information products that includes four items:

1. **World of Work**, a new product, provides an overview of Canada's labour market trends and links them to career and educational choices. It provides information on:
  - ▶ aggregate trends related to skill types, skill levels, education levels, and broad fields of study;
  - ▶ emerging occupations, sectors and skills within the Canadian labour market;
  - ▶ occupations with favourable outlooks listed by province; and
  - ▶ links between career/educational choices and labour market outcomes, such as starting and lifetime earnings, financial rate of return to a post-secondary diploma, and labour market accessibility.
2. **Outlooks by Occupation** explores the world of work by profiling 211 occupations, covering job requirements, recent trends and prospects through 2004.
3. **Outlooks by Field of Study** profiles 155 post-secondary fields of study. Included are general program information, early job experiences of recent graduates, and current and future work prospects for new entrants to the labour market. This portion of *Job Futures* encompasses most post-secondary education levels—trade/vocational, college/CEGEP, and bachelor's and master's university degrees.
4. **Job Futures Companion** is a user-friendly, step-by-step handbook. It demonstrates how *Job Futures* can answer day-to-day questions in a practical way. It illustrates usage by means of questions and answers and sample practitioner-client scenarios.

The data, analysis and forecasts contained in *Job Futures 2000* are produced by a team of Human Resources

Development Canada (HRDC) specialists. They base their projections on a set of sophisticated economic models and forecasting tools, including the Canadian Occupational Projection System of the ARB. While nobody can foresee exactly how the future will unfold, particularly over a horizon of many years in a rapidly changing labour market, these projections represent the best judgment of the HRDC specialists in consultation with private and public sector experts.

## A reference tool for education and career planning

*Job Futures 2000* is useful for anyone interested in the current and future Canadian labour market and the links between education and work. *Job Futures 2000* will be a valuable tool for:

- ▶ *career/education professionals* providing advice to their clients on career choices, career changes or prospects for finding work;
- ▶ *teachers* providing information to their students on occupations and the labour market;
- ▶ *parents* who wish to help their children plan for the future;
- ▶ *students* making educational and career decisions or inquiring about work prospects in their field of study;
- ▶ *workers* thinking about upgrading their skills or making a career change;
- ▶ *unemployed persons* exploring job prospects and training opportunities; and
- ▶ *other readers* interested in human resource trends.

## Main messages of *Job Futures 2000*

The data and analysis contained in *Job Futures 2000* suggest a number of trends.

- ▶ **A post-secondary diploma is a prerequisite for the majority of new jobs.** About 70 percent of the 1.4 million new jobs projected to be created in Canada

until 2004 will be in occupations generally requiring some form of post-secondary training.

- ▶ **The best job prospects are in computer systems, engineering, and health fields,** nationally and in many provinces. Retirements are expected to play a major role in opening jobs for telecommunication-carrier managers, physicists, chemists, geologists, librarians, archivists, conservators and curators.
- ▶ **A post-secondary diploma is generally a sound financial investment.** Post-secondary education generally leads to better employment prospects, higher starting and lifetime earnings, and lower unemployment rates than secondary schooling or less. By and large, data and research also indicate that the higher the level of education of the graduate, the higher the probability of finding appropriate employment, above average wages, and employment stability.

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## Examples of fields of study tending to lead to occupations with favourable work prospects for recent graduates

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Level of education	Sample fields of study (Listed alphabetically)
All levels	Business, computer science, nursing
University – master’s degree	Biology, economics, engineering, library science, planning and resource management
University – bachelor’s degree	Dentistry and medicine, economics, engineering, food and household science, law, pharmacy, veterinary medicine
Community college	Accounting, dental hygiene, mechanical technologies, medical laboratory technologies, protection and correction, radiography/radiation therapy/ nuclear medicine technologies, transportation technologies
Trade	Accounting, civil engineering, dental hygiene, machining, transportation and mechanical technologies, welding

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- ▶ **A post-secondary diploma is not by itself an absolute guarantee of successful labour market performance.** Starting and lifetime earnings, rates of return to education and labour market accessibility vary considerably among occupations, fields of study, and individuals. Thus, more than just the level of education matters. Career choices, skills and talents are also key elements to consider to ensure successful labour market performance and transition.

*Job Futures 2000* can be accessed on the Internet at [www.hrhc-drhc.gc.ca/JobFutures](http://www.hrhc-drhc.gc.ca/JobFutures). Print versions are available for reference at Human Resources Centres of Canada and other resource centres, public libraries and libraries in high schools and post-secondary institutions.

### Examples of occupations with favourable national prospects 2000 to 2004



- Aircraft mechanics
- Auditors, accountants and investment professionals
- Computer systems analysts
- Engineers
- Health care professionals — doctors, dentists, optometrists, chiropractors and nurses
- Heavy equipment operators
- Lawyers
- Librarians, archivists, conservators and curators
- Management, advertising and marketing consultants
- Management occupations (All)
- Medical technologists and technicians
- Pharmacists, dietitians and nutritionists
- Plumbers, pipefitters and gas fitters
- Police officers and firefighters
- Supervisors — logging and forestry, oil and gas mining, processing, assembling and fabricating
- Tool and die makers, machinists and machine tool operators

## List of studies presented in this Bulletin

Citizenship and Immigration Canada. *The Economic Performance of Immigrants: Canadian Language Perspective*. IMDB Profile Series. October 1998. Order from Citizenship and Immigration Canada by facsimile: (613) 957-5936 by telephone: (613) 957-5958

Citizenship and Immigration Canada. *The Economic Performance of Immigrants: Education Perspective*. IMDB Profile Series. May 1999. Order from Citizenship and Immigration Canada by facsimile: (613) 957-5936, by telephone: (613) 957-5958 or download from <http://www.cic.gc.ca/english/srr/pdf/res3aai.pdf>

Citizenship and Immigration Canada. *The Economic Performance of Immigrants: Immigration Category Perspective*. IMDB Profile Series. December 1998. Order from Citizenship and Immigration Canada by facsimile: (613) 957-5936, by telephone: (613) 957-5958 or download from <http://www.cic.gc.ca/english/srr/pdf/res3aiii.pdf>

Connor, Sarah. *Early Childhood Development in North York*. Ottawa: Human Resources Development Canada, Strategic Policy, Applied Research Branch, May 2001. [http://www.hrdc-drhc.gc.ca/arb/nlscyelej/northyork\\_e.shtml](http://www.hrdc-drhc.gc.ca/arb/nlscyelej/northyork_e.shtml)

Connor, Sarah, Christina Norris, and Sidney McLean. *Results of the Community Mapping Study for Children in North York*. Ottawa: Human Resources Development Canada, Strategic Policy, Applied Research Branch, forthcoming

Dea, Christian, Mario Lapointe, Jerry Lawlis and Wayne Roth. *Population Aging in Canada: Labour Market Implications and Issues, An Industrial and Occupational Perspective*. Ottawa: Human Resources Development Canada, Strategic Policy, Applied Research Branch, forthcoming

Helliwell, John F., ed. *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being: International Symposium Report*. Catalogue number SP-167-04-01E. Ottawa: Human Resources Development Canada and Organisation for Economic Co-operation and Development, 2001. Information: Enquiries Centre, HRDC, 140 Promenade du Portage, Phase IV, Level 0, Hull, Quebec K1A 0J9; fax (819) 953-7260; <http://www.hrdc-drhc.gc.ca/arb/conferences/oecd>

Human Resources Development Canada, Strategic Policy, Applied Research Branch. *An Analysis of EI Benefit Coverage*. Working paper W-98-35F. Ottawa, October 1998. <http://www.hrdc-drhc.gc.ca/arb/publications/research/abw-98-35e.shtml>

Human Resources Development Canada. *Job Futures Companion*. Ottawa, 2000. <http://JobFutures.ca/jobfutures/>

Human Resources Development Canada. *Job Futures 2000: Outlooks by Field of Study*. Ottawa, 2000. <http://JobFutures.ca/jobfutures/>

Human Resources Development Canada. *Job Futures 2000: Outlooks by Occupation*. Ottawa, 2000. <http://JobFutures.ca/jobfutures/>

Human Resources Development Canada. *Job Futures 2000: World of Work—Overviews and Trends*. Ottawa, 2000. <http://http://JobFutures.ca/jobfutures/>

Human Resources Development Canada, Strategic Policy, Applied Research Branch. *Market Basket Measure of Poverty*. Unpublished report. Ottawa, 2000

Human Resources Development Canada, Strategic Policy, Applied Research Branch. *Women, the Labour Market and Employment Insurance*. Unpublished report. Ottawa, August 2000

Lacroix, Guy. *The Dynamics of Welfare Participation in Newfoundland: 1986-1998*. Human Resources Development Canada, Strategic Policy, Applied Research Branch Working Paper W-00-6E. Ottawa, 2000

Willms, J. Douglas. *Vulnerable Children*. Edmonton, Alberta: University of Alberta Press, forthcoming

### About this Bulletin...

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## Ready, Set, Go!

### Improving the odds through integrated research, policy and practice

A National Dialogue Conference hosted by  
the Applied Research Branch of Human Resources Development Canada

**Wednesday, January 30<sup>th</sup> to Friday, February 1<sup>st</sup>, 2002\***

### Ottawa Congress Centre

*If life is a race everyone faces, we need to ensure that all Canadians are well equipped to compete as part of the team.*

*This conference will provide us with opportunities for dialogue on social justice and how together we, through our work, can really make it happen.*

- ✓ *For children as they get ready to learn.*
- ✓ *For youth as they become set for life.*
- ✓ *And for adults as they face challenges and stay the course.*

**Who should attend?** Anyone who wants to talk about how research can best inform public policy and practice:

- researchers
- government policymakers
- community practitioners
- elected officials
- educators
- First Nation representatives
- non-governmental organizations
- media
- business
- unions

**For more information:**

Call 1-800-342-7146, extension 257

\*Make plans to stay in town for the opening weekend of Ottawa's famous Winterlude Festival, beginning Friday, February 1, 2002.



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