

MEASURING SUSTAINABLE DEVELOPMENT

APPLICATION OF THE GENUINE PROGRESS INDEX TO NOVA SCOTIA

WORKING TIME AND THE FUTURE OF
WORK IN CANADA
A NOVA SCOTIA GPI CASE STUDY

EXECUTIVE SUMMARY

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"Good nature is, of all moral qualities, the one the world needs most, and good nature is the result of ease and security, not of a life of arduous struggle. Modern methods of production have given us the possibility of ease and security for all; we have chosen, instead, to have overwork for some and starvation for the others.... [T]here is no reason to go on being foolish forever."

– Bertrand Russell¹

The nature of work has changed dramatically in the last half century, and these changes have had major consequences for the ways in which we configure our lives. While our conventional measures of progress chronicle the widely accepted benefits of these changes, including higher levels of income and consumption, they have less successfully documented the costs.

The 1990s, for example, saw an increased polarization of hours and the decline of the standard workweek. Larger numbers of Canadians worked longer hours and larger numbers were unable to get the hours they needed to make ends meet. In the economic growth statistics conventionally used to measure progress, long work hours are counted as a contribution to wellbeing because they usually translate into increased output. But there are economic, social, and environmental costs associated both with increased output and long work hours. Longer work hours may exacerbate stress, produce adverse health outcomes, and diminish our quality of life, while increased output may place excess demands on our natural resources. At the same time, unemployment and underemployment waste precious resources and also produce substantial social, human, health, and economic costs.

Other major changes in the nature of work, which also have major consequences for quality of life, include the sharp increase in female labour force participation, the growing importance of the service industries, and the rise of new categories of “contingent work.” These changes have increased time stresses for many dual-earner families and working mothers, and job insecurity for many temporary, contract, casual, and on-call employees.

The full benefits and costs of these and other changes in the nature of work are not fully captured in our current measures of progress, which ignore major aspects of human capital on which the economic system rests, including education, skills, and human health. In 1995 the World Bank started to include estimates of human capital in its measures of national wealth, with its first rough estimates indicating that 59% of the wealth in developed countries was found in their human and social capital. Natural resources accounted for 25% of wealth, and manufactured capital for just 16%.²

A sound economic system that properly values work must also value the human, natural, and social capital on which all work is based. For instance, GDP-based measures of progress count any increase in work hours as a contribution to economic growth and prosperity, but these measures ignore the adverse effects that excess work hours can have on human health and family

¹ Russell, Bertrand. 1935. *In Praise of Idleness*. George Allen and Unwin Ltd. London. p. 29.

² Cited in Crittenden, Ann. 2001. *The Price of Motherhood*. Henry Holt and Company. New York. p. 71. Original source is World Bank. 1995. *Monitoring Environmental Progress*. Washington D.C.

structure. In fact, the GDP counts medical and drug spending on chronic health problems associated with work stress as a contribution to economic growth instead of as a cost to the economy.

The hours that people work are a key indicator of overall quality of life. Therefore work-hours is one of 22 core components of the Nova Scotia Genuine Progress Index (GPI). The key indicators of genuine progress for the work hours component of the GPI are listed below. In order for Canadians to achieve genuine progress in the arena of paid work, we need:

- 1) A decline in work hours for those who already have full-time work, who are working overtime, and who are working excessively long hours.
- 2) A decline in hours polarization, unemployment, and underemployment.
- 3) An increase in work that contributes to positive human development and quality of life.
- 4) An increase in the types of work that are socially and environmentally benign and a corresponding decrease in work that is damaging to communities and the environment.
- 5) An increase in job security and a corresponding decline in "non-standard" work which is characterized by low pay, insecurity, lack of benefits, and lack of worker autonomy.

Current trends show a decline in genuine progress in all indicators in the 1990s, with some improvement since 1996/97, but still an overall decline in the last 25 years.

In this three-part report, paid work is examined not only for its contribution to income and growth, as in most standard economic analyses, but from a broader perspective of "genuine progress" and human wellbeing.

Part 1 investigates the quantitative trends in paid work hours over the last several decades, particularly in Nova Scotia. For comparative purposes, trends are also considered for Canada as a whole, and in some cases for the United States and Europe.³ Part 1 also considers trends in types of work (i.e. part-time, full-time, shift work, casual etc.) and trends that have been taking place within the domain of work itself.

Part 2 examines costs associated with these trends in work that are invisible in our current system of accounting. For instance, what are the costs associated with unemployment and underemployment? What are the health costs associated with long work hours? Is the changing nature of work taking a toll on family life or community life, and if so, how might these costs be assessed?

Part 3 presents the perceived benefits of shorter work time, as well as obstacles to shorter work time from the perspective of employees, employers, and unions. Various forms of new work arrangements are discussed, with working examples provided to demonstrate ways in which paid work could practically be reconfigured in our lives to take human wellbeing and quality of life into account. The job creation potential of reduced work time and reduced overtime will also be explored, with special attention paid to Nova Scotia. Finally, Part 3 explores ways in which

³ International comparisons have been made with great caution, because the data sources vary considerably, as do definitions and survey questions.

genuine progress could be made in the area of paid work. Policy recommendations that flow from the evidence are discussed, as well as the areas where more data are required.

1. TRENDS IN WORK HOURS AND THE CHANGING NATURE OF WORK:

"The paradox of our times is that many Canadians today work long hours while many others have no work at all."

– Advisory Group on Working Time and the Distribution of Work⁴

Within the last century, hours of paid work have gone through three phases: reduction (1900-1960), stabilization (1960-present), and polarization (1980-present).⁵ The first 60 years of the 1900s saw dramatic reductions in paid work hours with standard weekly hours falling in Canada from about 60 hours in 1900 to 40 hours in 1957.⁶ By the 1960s, 70% of full-time workers worked “standard” hours (40 hours a week), and many who thought the downward trend had momentum foresaw a 32-hour week on the horizon.⁷ Instead, standard hours have not changed much in the last 40 years. For all Nova Scotian and Canadian employees (both full-time and part-time), average weekly work hours decreased by only 2.5 hours and 2 hours respectively, or just 5%, in the 25-year period from 1976 to 2001.⁸ By contrast, between 1901 and 1941 weekly work hours in Canada dropped by 11 hours or 18%. Between 1941 and 1961, there was an additional 18% decline in just 20 years.⁹ The 5% decline in work hours evident over the last quarter century suggests work hours in Canada are stabilizing, a trend mirrored in many industrialized countries

The sharp decline in standard work hours over the first 60 years of the 1900s has been attributed to skyrocketing levels of productivity, due to technological advances, and subsequent increases in real earnings. Between 1950 and 1970 alone, the GDP in industrialized countries, including Canada, grew 2.5 times and industrial production almost tripled. The general stability of the workweek since the 1970s in particular is related to the fact that the wages of full-time, full-year workers have stagnated since that time, so that workers have no potential wage gains to exchange

⁴ Advisory Group on Working Time and the Distribution of Work. 1994. *Report for the Advisory Group on Working Time and the Distribution of Work*. Human Resources Development Canada. Hull. p. 15.

⁵ Morissette, Rene and Deborah Sunter. 1994. *What is Happening to Weekly Hours Worked in Canada?* Statistics Canada. Household Surveys Division. Analytical Research Branch. Ottawa. p. 4.1.

⁶ In the United States the average workweek was 58.4 hours in 1901. By 1948 it had dropped to 41.6 hours. Between 1948 and 1977 work hours hardly changed. The average workweek by the end of the 1970s was 41.3 hours. Taken from White, Michael. 1987. *Working Hours. Assessing the Potential for Reduction*. International Labour Organization. Geneva. p. 4.

⁷ Morissette and Sunter, 1994, op. cit., p. 4.2.

⁸ Statistics Canada's Labour Force Survey collects information on a monthly basis about hours of work. Respondents are asked how many hours they *usually* worked and how many hours they *actually* worked during the reference week (which is generally the week prior to the administration of the survey). “Usual hours” are defined as normal paid or contract hours, excluding overtime hours, vacations, and sick days. “Actual hours” are the number of hours actually worked in the reference week and include paid and unpaid overtime, vacation, sick days, and days lost due to labour disputes.

⁹ Calculations are derived by the author but data are obtained from Sheridan, Mike, Deborah Sunter and Brent Diverty. 1996. “The Changing Workweek: Trends in Weekly Hours of Work.” *Canadian Economic Observer*. Statistics Canada. Catalogue No. 11-010-XPB. Ottawa. p. 3.3.

for added leisure. In addition, Canadians have been investing more time and money in education and are therefore less willing to trade wage gains for shorter hours when they do enter the labour market. The apparent stabilization of weekly work hours is also related to the fact that workers may have chosen non-wage benefits such as paid holidays, health and dental care packages, and pension plans over shorter workweeks during this period. There was also little incentive on the part of employers to further reduce the standard workweek since, according to one analysis, "further reductions were unlikely to yield a proportionate increase in productivity." Because of this, employers were not likely to reduce work hours without a proportionate reduction in wages, a move workers would probably oppose.¹⁰

Declining average weekly work hours have also been linked to the growth of service industries that have shorter average working hours; the continued decline in agricultural employment, with its very long work hours; and the changing composition of the workforce, particularly the increased labour force participation of women and youth, and the rapid expansion of part-time work.¹¹

However, quantifying the *average* number of paid work hours alone paints a very incomplete picture of what is actually taking place and says nothing about trends taking place within those averages. Nor does it reveal growing disparities among different groups of workers. In other words, a steady or declining average may be hiding or masking other trends. In the following sections some of these hidden trends will be outlined.

Polarization

"Hours polarization" refers to a decline in the proportion of workers working standard hours, coupled with increases in the proportions working long and short hours.¹² In Canada, hours polarization has been accompanied by a growing inequality in both employment opportunities and earnings. According to the Advisory Group on Working Time and Distribution of Work: "Hours of work are increasing for some full-time workers while, for others, only part-time work is available. This increased labour market polarization raises the stakes of winning and losing in the employment lottery."¹³

By 2001, only 59% of paid workers in Canada put in 35-40 hours per week, down from 66% in 1976. In Nova Scotia the percentage of workers working standard hours fell from 65% in 1976 to only 57% in 2001. The proportion working standard workweeks reached its low point in 1996, when only 55% of paid workers in Canada and 52% in Nova Scotia worked a standard week of 35-40 hours. The overall drop, especially between 1976 and 1996, was largely due to the sharp reduction in the hours worked by youth, which in turn was related to increasing numbers working part-time while undertaking post-secondary education. In this time period, the

¹⁰ Sunter, Deborah and Rene Morissette. 1994. "The Hours People Work." *Canadian Economic Observer*. Statistics Canada. Catalogue no. 11-010. Ottawa. pp. 4.5-4.6.

¹¹ Benimadhu, Prem. 1987. *Hours of Work: Trends and Attitudes in Canada*. Conference Board of Canada. Ottawa. p. 4.

¹² According to Morissette and Sunter (1994), most of the decline in the standard workweek in Canada took place between 1981 and 1993, coinciding with the last two recessions. p. 14.

¹³ Advisory Group on Working Time and Distribution of Work. 1994. *Report for the Advisory Group on Working Time and the Distribution of Work*. Human Resources Development Canada. Hull. p. 15.

proportion of 15 to 24-year-olds working less than 35 hours/week more than doubled in Canada, from 26% in 1976 to 54% in 1996.¹⁴ In Nova Scotia the trend was similar, but even more pronounced. In 1976, 24.6% of young Nova Scotians worked less than 35 hours a week. By 1996 this proportion had more than doubled to 58.7%. By 2001, 51.4% were working short hours, indicating that more young people have found full-time work in recent years.¹⁵

Actual hours data, which include overtime, vacations, and sick days, indicate that in 2001, 31% of all workers in Canada put in less than 35 hours a week, up from 28% in 1976. The proportion working less than 30 hours increased from 16% in 1976 to 21% in 2001. This reflects sharp increases both in female employment, where the proportion of part-time work is nearly three times as high as among men, and in the percentage of youth working part-time.

In Nova Scotia in 2001, 31% of all workers clocked less than 35 hours a week, up slightly from 29% in 1976. Within this group, however, the proportion working less than 30 hours a week increased sharply from 16% in 1976 to more than 20% in 2001. Short hours were most prevalent among employed women in Nova Scotia. In 1976 27.3% of employed women worked less than 30 hours a week compared with 29% in 2001. Roughly two out of every five employed Nova Scotian women worked less than 35 hours a week both in 2001 and in 1976. In 2001 one in five employed Nova Scotian men worked less than 35 hours a week – relatively unchanged from 25 years earlier.¹⁶

At the same time, the incidence of long work hours was increasing. Again using data on actual hours worked, in 1976 one-quarter of all Canadian workers in full-time jobs worked 41 hours or more. In 2001 nearly one-third were working 41 hours or more, a proportion that has remained relatively unchanged since the mid-1990s.

In Nova Scotia the proportion of full-time employed working long hours (50 hours or more) increased sharply between 1976 and 2001 from 12.7% to 16.4%. In 1976 roughly one in five full-time workers in Nova Scotia clocked more than 41 hours a week. By 2001 nearly one in three workers was doing so. Full-time employed men in Nova Scotia saw a 35% increase in long work hours during this time period. In 2001 22.4% of full-time employed men worked 50 hours or more a week, up from 16.6% in 1976. In this same time period there was also a very substantial increase in the proportion of full-time employed women in Nova Scotia who were working more than 41 hours per week, up from 12.2% in 1976 to 20.3% in 2001. Among full-time employed women, 4.5% worked 50 or more hours a week in 1976 compared with 8.4% in 2001.¹⁷

¹⁴ Sunter and Morissette, 1994, op. cit., p. 4.3. The trend description and analysis provided in this section are based on this article by Sunter and Morissette, but the figures cited here and elsewhere in this report text are not identical to the figures cited by Sunter and Morissette. Instead, the numbers cited here are derived from the revised data for usual hours available in Statistics Canada's *Labour Force Historical Review*. Every five years or so, all Statistics Canada data are revised based on new census population information. Bowlby, Jeff. Statistics Canada. Head of Analysis for *The Labour Force Survey*. Personal communication. July 30, 2003.

¹⁵ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

¹⁶ Idem.

¹⁷ Idem.

In Nova Scotia, Statistics Canada data indicate that employed men over 45 years of age have experienced a marked polarization in their hours of work over the last 25-year period. The decline of the standard workweek, particularly between 1976 and 1996, has been accompanied by an increase in both short and long hours for this demographic group. In 2001, 10.5% of employed men over 45 years of age were working short hours (1-34 hours), compared to 6% in 1976. Similarly, 23% of full-time employed men over 45 were working long hours (50 hours or more) in 2001, up from 16% in 1976. In 1976, 26.4% of full-time employed men over 45 were working more than 41 hours per week compared with nearly 38% in 2001. Again, all these data are based on *actual* hours worked, which include overtime, vacations, and sick days.

For Nova Scotian men over 55 years of age the shift was even more dramatic. The proportion of men in this age group working standard workweeks (35-40 hours) dropped nearly 12 percentage points from 1976 to 2001 (from 62.9% to 51.2%), while hours grew more polarized. In 2001, nearly 18.8% of employed men in this age group were working short hours, compared to just 10.6% in 1976. As well, 20.3% of full-time employed men in this age group were working long hours in 2001, up from 13.9% in 1976. In 1976, 23.4% of full-time employed men aged 55 and over were working more than 41 hours a week compared with 33.4% in 2001.

Again using data on actual hours worked, employed Nova Scotian women between 25 and 44 years of age have also seen a decline in the standard workweek (35-40 hours), from 63.4% of employed women in 1976 to 58.7% in 2001. Among these women, there was a shift towards shorter work hours (1-34 hours/week) from 28% in 1976 to 31% in 2001. Among full-time employed women in Nova Scotia in this age group, the incidence of long hours (50 or more) also increased from 4.6% to 8% in this time period. In 1976, 12.3% of this group worked more than 41 hours a week compared with 20% in 2001.

Nova Scotian women 55 years and over have seen an even more dramatic drop in the standard workweek, and a particularly large shift to short hours. The proportion of women 55 years and over working a standard week fell from 58.6% in 1976 to 45.9% in 2001. This shift was accompanied by sharp increases in the proportion of older women working short hours and long hours. Between 1976 and 2001, the incidence of short hours (less than 35 hours/week) increased from 30.2% to 44.8% while the incidence of long hours (50 and over) among full-time employed women in this older age group also increased, from 6.4% to 10.4%. In 1976, 13.8% of full-time employed women 55 and over worked more than 41 hours a week compared with nearly 22% in 2001. As noted, all these data refer to actual hours worked.

More young people were in school in 1995 than a decade earlier, and this number continues to grow. The rising costs of university tuition and other educational expenses are pushing more of these students into the labour market. In 1976, the employment rate for full-time students in Canada was 26%.¹⁸ By 2001 it had increased to 38%. Similarly, 33% of full-time students in Nova Scotia were employed in 2001, up from 22% in 1976. Full-time students tend to work part-time to balance their work/school responsibilities, thereby contributing to the increase in the proportion of employees working short hours. However, according to Statistics Canada, short workweeks have become more common among both student and non-student groups. For

¹⁸ Statistics Canada defines the "employment rate" as the number of persons employed expressed as a percentage of the population. In this case, the population refers to full-time students 15-24 years old. In other words, 26% of full-time students were employed in 1976.

example, in 1995, three out of 10 employed youths who had left school worked a short workweek – triple the proportion of school leavers working short workweeks in 1976.¹⁹

Again using *actual* hours data, short hours (1-34 hours per week) and standard hours (35-40 hours per week) moved in opposite directions between 1976 and 2001 for youth in Nova Scotia, with short hours increasing at the expense of standard hours. In 1976, 38% of youth worked less than 35 hours per week. This increased to 54% in 2001. By contrast, in 2001, only 27% of 15-24 year old Nova Scotians worked a standard workweek, down from 41% in 1976.

As indicated above, women and youth account for a disproportionate number of short-hours workers. By contrast, those working longer hours represent a more diverse cross-section of workers (Table ES1).

The existing literature on the subject has pointed to a number of factors that have contributed to hours polarization in Canada. These include the following:

- Growth in part-time jobs exceeded the growth in full-time jobs in the 1990s, contributing to the growth in short hours.²⁰
- The increase in long work hours, particularly between 1976 and 1997, could be partially due to the fact that between 1989 and 1997, self-employment accounted for nearly 80% of net employment gain in Canada, and the self-employed tend to work long hours.
- The growth of moonlighting contributed to long hours.
- Growth in school attendance coupled with growth in part-time jobs held by students contributed to the growth in short hours.
- There has been a marked shift toward service industries where hours are polarizing and where shorter hours are more prevalent.
- Industries where hours are decreasing tend to be characterized by a relatively unskilled work force receiving low wages.
- The adoption of "lean production" and "just-in-time" methods by employers means they need to be able to adjust quickly to changes in demand for product, and therefore may use either more overtime hours among existing employees or hire more temporary contract workers (who tend to work short hours) to meet fluctuations in demand. In either case, the new production methods militate against the standard workweek and tend to favour a polarization of hours.
- Trade globalization and increasing competition with cheap labour countries has forced many firms to shed full-time employees in an effort to reduce costs and to replace them with part-time, contingent workers.

Polarization may not only be occurring between different groups of workers. In many cases, the same individuals might be working very long hours during some periods, and be unemployed or underemployed during others. It is clear from this summary that the apparent stability of *average* work hours in recent decades conceals growing disparities among different groups of workers.

¹⁹ Sheridan, Sunter and Diverty, 1996, op. cit., p. 3.6.

²⁰ Manser, Marilyn E. and Garnett Picot. 1999. "Self-employment in Canada and the United States." *Perspectives*. Vol. 11, no. 3. Statistics Canada. Catalogue no. 75-001-XPE. Minister of Industry. Ottawa. p. 43.

Table ES1. Who Works Long Hours in Canada?

	Comments
Men and women with university degrees	The proportion of Canadian university-educated men working long hours rose from 25% in 1976 to 32% in 1995. For Canadian women with degrees, it increased from 13% to 18%.
Managers in white and blue-collar occupations (men and women)	Between 1985 and 1995, there was an 8.3% decrease in the proportion of managers working standard hours in Canada, and a corresponding 8.2% increase in the proportion working more than 40 hours/week.
Blue-collar jobs that pay overtime	It is often more cost efficient for employers to pay overtime than to hire and train new workers. Due to ceilings on Employment Insurance, Canada Pension Plan, and Workers Compensation Board contributions, employers' fixed costs increase less by scheduling existing employees to work overtime than by hiring new employees.
White collar jobs with a high level of responsibility	There is an increasingly competitive employment market in this area. Therefore, salaried employees are often expected to put in substantial hours of unpaid overtime. In addition, downsizing has led to layoffs in this area, which in turn have led to an increasing incidence of job insecurity, so that many employees are afraid to refuse overtime as they are forced to take on the work of laid off co-workers.
Service sector	While many service sector jobs are associated with part-time, temporary, and casual work, long work hours are prevalent for: <ul style="list-style-type: none"> • women in business services and education • men working in transportation, storage and communications, business services, educational services, and public administration
Goods-producing sector	In general, longer hours are more prevalent for both men and women in the goods-producing sector than in the service sector.
Multiple-job holders (moonlighters)	Multiple-job holders tend to have long work hours since they are working more than one job. This group has grown as a proportion of overall employment since the mid-1970s.
Workers in low-skilled, low-paying jobs	The Advisory Group on Working Time and the Distribution of Work pointed out that a "cluster" of workers in low-paying jobs, usually women, are typically forced to work long hours just to make ends meet. ²¹
Self-employed	The self-employed were three times as likely as paid employees to work more than 40 hours a week in 1995. This group has also increased in the last decade. Between 1976 and 1998 self-employment doubled in Canada. In fact, nearly 80% of jobs created in the first eight years of the 1990s were created in the self-employment sector. ²²

Sources: Statistics Canada. 1997. *Labour Force Update: Hours of Work*. Vol. 1, no. 2. Minister of Industry. Ottawa. pp. 14-16; Advisory Group on Working Time and the Distribution of Work, 1994, op. cit., pp. 18-19.

²¹ Advisory Group on Working Time and the Distribution of Work, 1994, op. cit., pp. 18-19.

²² Of the 775,000 total net job growth (1990-1998), nearly 600,000 were in the self-employment sector. From Lin, Zhengxi, Garnett Picot and Janice Yates. 1999. *The Entry and Exit Dynamics of Self-Employment in Canada*. Research Paper Series. Analytical Studies Branch. Statistics Canada. No. 134. Minister of Industry. Ottawa. p. 1.

Total Work Hours and Increased Work Effort

The apparent stability of *individual* work hours in the last 40 years, however, also conceals the fact that *households* are actually putting in much longer hours than before. In 2000, both partners worked in 65.6% of two-partner families in Canada.²³ In 1967 (the first year data on dual earner families were available) just over 30% of all two-partner families had both partners working. This, combined with the fact that total household work hours have not markedly diminished since the turn of the century, means that dual-earner couples with children are working longer total (paid plus unpaid) hours today than their counterparts did 100 years ago. Total average work hours per week for couples with children increased substantially in Canada between 1900 and 2000 from about 111 hours in 1900 to 137 hours in 2000.²⁴ Total work hours for *full-time* employed parents in 2000 are even higher at 145 hours. This increase in total (paid plus unpaid) work hours is primarily due to the fact that married women with children only entered the paid workforce in large numbers after the Second World War.

Using Statistics Canada's special tabulations on usual work hours prepared for GPI Atlantic from the Labour Force Survey (work-estimate data), between 1976 and 2002 the average employed married father in Nova Scotia worked slightly longer than his non-parent counterpart. For example, in 2002, employed married fathers worked 42.7 hours per week while their non-parent counterparts worked 41.7 hours. Employed married mothers, on the other hand, tend to work fewer hours for pay than their non-parent counterparts, though they put in considerably longer unpaid household work hours. In Canada overall the general pattern is similar, though married men and women both with and without children in Nova Scotia tend to work slightly longer paid work hours than their counterparts in the rest of Canada. Nova Scotian fathers are putting in about two hours per week less in paid work time than 25 years ago, while mothers are working about an hour longer.

The Labour Force Survey data on usual hours worked show that in 2002, couples between 25 and 44 years of age without children in Canada worked a combined week of 77.2 hours for pay. In Nova Scotia in that same year they worked 78.2 hours. By contrast, couples in that age group with children worked 75.1 hours per week in Canada overall and 76.1 hours in Nova Scotia.

By contrast, when we consider only the full-time employed parents between 25 and 44 years of age we find that their combined usual paid workweek increases to 81.2 hours in Canada and 82.6

²³ Statistics Canada. 2002b. *Income in Canada, 2000*. Catalogue no. 75-202-X1E. Table 9.2. Minister of Industry. Ottawa. p. 125.

²⁴ Female unpaid work (1900): From historical studies cited by Schor, Juliet B. 1991. *The Overworked American: The Unexpected Decline of Leisure*. Harper Collins. New York. p. 200, footnotes 5 and 6; Female paid work (1900): Historical data confirm that married women did not enter the paid workforce in any significant numbers until after WWII; Female paid and unpaid work (2000): Based on Statistics Canada's General Social Survey (Time use data). Fast, Janet, Judith Frederick, Nancy Zukewich and Sandra Franke. 2001. "The Time of Our Lives." In *Canadian Social Trends*. Statistics Canada. Catalogue no. 11-008. p. 22. The figures would be higher for full-time employed single mothers – approximately 44 hours paid work/week and 30.8 hours unpaid work/week; Male paid work (1900): Benimadhu, Prem. 1987. *Hours of Work: Trends and Attitudes in Canada*. Conference Board of Canada. Ottawa. p. viii; Male paid and unpaid work (2000): Based on Statistics Canada's General Social Survey (Time use data). Fast et al. 2001. "The Time of Our Lives." In *Canadian Social Trends*. Statistics Canada. Catalogue no. 11-008. p. 22.

hours in Nova Scotia in 2002. Their non-parent full-time counterparts were employed 80.7 and 81.8 hours respectively.

On average, therefore, couples in Nova Scotia are working somewhat longer hours than the Canadian average. Generally, paid work hours for dual-earner couples without children increased up until 1996, while they remained relatively stable for those with children during those 20 years. Since 1996, combined usual paid work hours for both groups have steadily declined. Usual paid work hours for couples with children in 2002 were about two hours a week less than they had been in 1976. For those without children, hours returned to 1976 levels.

Time-use data collected from Statistic's Canada's 1998 General Social Survey (GSS) indicated that full-time dual earner parents in Canada work a total of 87.4 paid hours per week when both their workloads are combined – an increase of 2.0 hours per week of paid work since 1992. The discrepancy between the GSS time-use data and the Labour Force Survey data is partly due to the fact that the former includes work-related activities, like commuting time, work-related travel, and paid work breaks. When unpaid work hours are added, the total rises to 144.6 combined paid and unpaid hours weekly.

Lone parent mothers, aged 25-44, who were employed full-time, did slightly more combined paid and unpaid work (75 hours a week) than their married counterparts, and they had the least amount of free time of any demographic group.

The equation of increased work hours with higher levels of affluence may be misleading. Evidence from the U.S. shows that most of those working longer hours in that country are just trying to maintain their existing standard of living on dwindling real incomes, and that smaller relative increases in real earnings have been purchased with relatively larger increases in hours worked.

In Canada between 1980 and 2001 the average disposable income of dual-earner parents increased by 8.4%. In Nova Scotia it increased by 8.1%.²⁵

During roughly this same period (1981-2000), the average actual combined annual paid work hours of dual-earner parents with children increased by 6% in Canada and by 4% in Nova Scotia. When we include 2001 data, the increase is 3.4% and 3.1% respectively.²⁶ In other words, in 2000, Canadian parents were actually working 206 more hours per year for pay, equivalent to 26 more work days, than they did in 1981 (based on an 8-hour work day). Nova Scotian parents were working 141 additional hours, or 18 more 8-hour days, for pay in 2000 than they did in 1981.²⁷

²⁵ Statistics Canada. *Average After-tax Income in 2001 Constant dollars, Canada, 1980-2001*. CANSIM II Table 202-0603.

²⁶ Actual work hours data were used here because vacation time must be considered when hours are annualized. Actual hours also capture paid and unpaid overtime.

²⁷ Statistics Canada. 2003a. *Labour Force Survey, 1976-2002*. Unpublished data. Custom tabulation prepared by Statistics Canada for GPI Atlantic. Table V0603_16. Minister of Industry. Ottawa.

Between 1981 and 2000, therefore, Canadian working parents increased their work effort by the equivalent of just over five weeks a year and Nova Scotian parents by 3.5 weeks a year, based on a 40-hour workweek. When we include 2001 data, Canadian couples with children worked the equivalent of 15 more work days per year in 2001 than they did in 1981, and their Nova Scotian counterparts worked an average of 14 work days more per year (equal to about three additional 40-hour workweeks). As the data indicate, average work hours declined slightly for this segment of the population between 2000 and 2001.

When the earnings and hours data are combined, it is clear that a substantial portion of the increased earnings were purchased with additional hours. As noted, working parents in Canada had, on average, 8.4% more disposable income in 2001 than they did in 1980. In Nova Scotia, average disposable income rose by 8.1% in the same time period. Simultaneously, work hours increased by 3.4% in Canada and by 3.1% in Nova Scotia. Therefore, based on these data, it would appear that 40.5% of the increase in disposable income in Canada and nearly 40% of the increase in Nova Scotia were bought with increased work effort.

Data also indicate that the average market income of prime aged working parents in Canada increased by 22% between 1981 and 2000.²⁸ In Nova Scotia during this same time period market income increased by 20%.²⁹ Based on these data, it would appear that nearly 30% of the increase in market income in Canada and 20% of the increase in Nova Scotia were bought with increased work effort.

From a household perspective, the increases in both disposable (after-tax) and market income purchased through increased work effort calculated here are substantial underestimates, because female labour force participation has risen sharply since the early 1980s. For most households, the shift from single-earner status to dual-earner status constitutes a significant "increased work effort" that is not captured here. In other words, the data above compare the hours of working parents in 2001 with the hours of parents who were already working in 1981. They do not account for additional labour force participants within a household.

When the increased work effort is assessed to account for changes in total paid *household* work hours, the most substantial increases in work effort are seen in households with very young children. The employment rate of women with their youngest child aged 6-15 rose from 46.5% in 1976 to 75.3% in 2001. The employment rate of women with their youngest child aged 3-5 rose from 36.9% to 67.4% during this period. For women with infants (0-2), the employment rate rose from 27.7% in 1976 to 62% in 2001.³⁰ These shifts to dual-earner status constitute substantial increased work effort on the part of households that are not captured in the earnings to hours ratios described above.

²⁸ In 1981 in Canada the combined average market income of two-parent, dual-earner families with children was \$63,308. In 2000 it was \$76,960, an increase of 22%. Both are in \$2001 constant dollars. Statistics Canada. *Average Market Income by Economic Family Types, Canada, 1981-2000*. Available from <http://www.statcan.ca/english/Pgdb/famil22d.htm>. Accessed June 5, 2003.

²⁹ In 1981 in Nova Scotia the combined average market income of two-parent, dual-earner families with children was \$53,260. In 2000 it was \$63,801, an increase of 20%. Statistics Canada. *Average Market Income by Selected Economic Family Types, Nova Scotia, 1981-2000*. CANSIM II. Table 202-0202.

³⁰ Statistics Canada. 2002c. *Women in Canada: Work Chapter Updates*. Catalogue no. 89F0133-XIE. Minister of Industry. Ottawa. pp. 6 and 12, Table 5.

Overtime

In 2001, an average of 1.2 million Canadians were out of work. At the same time, 2.4 million Canadians, or about 20% of the workforce, clocked about 21 million hours of overtime every week. In Nova Scotia in that same year, 72,200 employees (about 21% of the workforce) worked about 643,000 hours of overtime each week, while 45,600 people were jobless.^{31 32} In other words, if all overtime hours were converted to new full-time jobs, admittedly not an easy task, there would be half a million fewer unemployed Canadians and 16,000 fewer unemployed Nova Scotians.

The incidence of overtime in both Canada and Nova Scotia increased by 15% between 1997 and 2001. Among those who work overtime in this province, nearly 38% get paid for it, while a striking 59% don't. The remaining 3% of overtime workers put in a combination of both paid and unpaid overtime hours. In other words, in a typical week in 2001, roughly 373,000 overtime hours were worked free of charge in Nova Scotia.³³ In Nova Scotia, the incidence of overtime rose from 18.6% of all employees in 1997 to 21.4% in 2001.

- In 2001, 24% of all male employees in Nova Scotia worked overtime and 18.5% of all female employees worked overtime. In total, there were therefore considerably more male employees working overtime than female employees.
- In 2001, Nova Scotian women working overtime were less likely than men to be compensated for their extra labour. Fifty-two per cent of all male employees working overtime in Nova Scotia were working unpaid overtime while nearly 68% of all female employees working overtime did so for free. Overall, there were almost the same number of Nova Scotian men and women working unpaid overtime (21,900 men vs. 20,500 women).
- The propensity to work overtime was highest in the 45-and-over age group at 23.6%. Among 25-44 year old employees, 18.9% worked overtime; and among 15-24 year old employees, only 8.6% worked overtime.
- Among older workers, more women worked overtime without pay than men.

For Nova Scotian men, the trade, educational services, and public administration sectors accounted for the highest rates of unpaid overtime. For Nova Scotian women, the educational services, health care and social assistance accounted for the highest rates of unpaid overtime.

³¹ The unemployment figures cited here are the official figures. They do not include discouraged workers or the underemployed. See Chapter 5 on "The Collapse of Work" for a discussion about the "hidden unemployed," and for information on Statistics Canada's more comprehensive "supplementary unemployment" statistics.

³² Statistics Canada's *Labour Force Survey* (LFS) began collecting information on paid and unpaid overtime in January 1997. These LFS data will be supplemented by other sources where possible.

³³ This is based on 42,400 workers clocking unpaid overtime hours in Nova Scotia and averaging 8.8 hours of unpaid overtime per week. Data are from Statistics Canada's *Labour Force Historical Review 2001*. Paid overtime is defined by Statistics Canada as overtime hours for which the employee was paid or otherwise compensated (time off in lieu). Unpaid overtime is overtime hours not paid for or otherwise compensated. In addition, 2,400 employees in Nova Scotia – or approximately 3% of the total number of employees working overtime – worked *both* paid and unpaid overtime hours in 2001.

Moonlighting

In Canada, between 1976 and 1996 the number of people holding down more than one job tripled. When increases in total population and employment are accounted for, one in 20 workers held a second job or self-employed position in 1996, compared with just one in 50 workers two decades earlier. In Nova Scotia the percentage of workers who are moonlighting more than doubled from 2.1% in 1976 to 4.4% in 2001. Since 1996, when nearly 5% of all employed were moonlighting, there has been a modest decline.³⁴

The composition of the moonlighting work force has changed over the last 25 years. The fastest growing group of moonlighters has been women aged 25-54 years. In 1976 moonlighters were predominantly adult men (outnumbering women three to one) with regular full-time jobs. By the 1990s, many more women had joined the ranks of multiple job holders, so that, by 1996, 51% of moonlighters were adult women, of whom the vast majority were part-timers in the service sector.³⁵

In Canada in 2001, 53.4% of employed moonlighters were women, compared with 46.5% who were men. Similarly, in Nova Scotia, 18,800 workers were moonlighting in 2001, the majority of them women (54.2% women vs. 45.7% men), reversing the earlier gender gap. In 1987, 60.5% of Nova Scotian moonlighters were men, and 39.5% were women. In 2001 in Nova Scotia, 5.1% of employed women overall were moonlighting, up from 3.3% in 1987. In 2001 3.9% of employed Nova Scotian men were holding down more than one job, up only marginally from 3.8% in 1987, and down from 4.6% in 1996.³⁶

In 2001 the majority (52%) of moonlighters in Nova Scotia were between the ages of 25-44, with the remainder split between younger and older workers.

Holding more than one job usually means longer work hours, though in some cases, especially for youth, two or more short-hours jobs may often only add up to one full-time job. On average, Canadian moonlighters usually worked 46.2 hours a week in 1996.³⁷ In Nova Scotia more than 65% of moonlighters worked more than 41 hours per week in 2001. More than 40% worked 50 or more hours per week. In Canada as a whole, 64% of moonlighters worked more than 41 hours per week, and 41% worked more than 50 hours per week.

Not surprisingly, moonlighting and high levels of unemployment don't mix. According to Statistics Canada: "In provinces where even one job can be hard to find, it should not be surprising that second jobs are also scarce."³⁸ In comparison to other provinces, therefore, moonlighting rates in Nova Scotia (and in Atlantic Canada in general) are below the national average, since unemployment rates in this region are higher than in other provinces.

³⁴ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

³⁵ Statistics Canada. 1997. *Labour Force Update: Hours of Work*. Vol. 1, no. 2. Catalogue no. 71-005-XPB. Minister of Industry. Ottawa. pp. 32-34.

³⁶ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

³⁷ Statistics Canada, 1997, op. cit., pp. 32-34.

³⁸ Idem.

Statistics Canada's 1995 Survey of Work Arrangements asked moonlighters to indicate the main reasons why they have more than one job, and found that the majority (57%) of paid employees and 46% of self-employed workers do so for economic reasons.³⁹

Self-employment

In 1997 nearly 2.5 million Canadians reported working in their own businesses, more than double the number of self-employed 20 years earlier. In fact, 77% of all jobs created in the first eight years of the 1990s were created in the self-employment sector. This growth in self-employment is "unprecedented," since past job creation has typically and overwhelmingly been in the paid employment sector.⁴⁰

Self-employment as a percentage of total employment has increased in Canada and Nova Scotia over the last 25 years, accelerating in the early 1990s, reaching a peak in 1996, and declining somewhat since then. However, current self-employment rates are still much higher than they were 25 years earlier. About 15% of working people in Nova Scotia were self-employed in 1996, compared with 11% in 1976. By 2001 the rates had dropped to roughly 13%, still above 1976 levels. In Canada, self-employment accounted for 16.2% of those working for pay in 1997 and 15.3% in 2001, up from just over 12% in 1976.⁴¹

In Canada and in Nova Scotia, the self-employed are more likely to be men. The male share of self-employment has declined somewhat in Nova Scotia since 1976, when nearly 73% of self-employed were men. By 2001, 64% of self-employed workers were men. During the same time period the female share of self-employment has increased correspondingly. In 2001, 36% of self-employed workers were women, up from 27% in 1976.⁴²

The growing prominence of self-employment in the labour market has contributed to the polarization of work hours in Canada, mostly due to the propensity of the self-employed to put in long workweeks, but also, interestingly, through an increased incidence of short hours among the self-employed in particular sectors.

In 2001, the self-employed in Canada were seven times more likely to work 50 hours or more per week than paid employees (35% vs. 5%). The self-employed in Canada were about four times more likely to work 41 or more hours per week than paid employees (43% vs. 11%). In Nova Scotia the contrast is similar, but not quite as dramatic. In 2001, self-employed Nova Scotians were about 4.5 times more likely than paid employees to work over 50 hours a week, and nearly

³⁹ "Economic reasons" include meeting regular household expenses, paying off debts, saving for the future, and "other: economic."

⁴⁰ Of the 775,000 total net job growth between 1990 and 1998, nearly 600,000 jobs were in the self-employment sector. From Lin, Zhengxi, Garnett Picot and Janice Yates. 1999. *The Entry and Exit Dynamics of Self-Employment in Canada*. Research Paper Series. Analytical Studies Branch. Statistics Canada. No. 134. Minister of Industry. Ottawa. p. 1.

⁴¹ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

⁴² Idem.

three times more likely to work 41 or more hours a week.⁴³ These statistics reflect “usual” hours worked, and thus exclude consideration of overtime, vacations, and sick days.

In 2001, 40% of self-employed Nova Scotians worked 41 or more hours a week, and 32% worked 50 or more hours a week.⁴⁴

Voluntary and Involuntary Part-time Work

Statistics dating back to the 1950s indicate that the rate of part-time work in Canada more than quadrupled over a 48-year period from 3.8% in 1953 to 18% in 2001, reaching a peak of nearly 20% in 1993. In Nova Scotia, part-time employment increased from 12.5% of all employees in 1976 to 17.8% in 2001, after dropping off from a peak of more than 20% in 1996.

While youth (15-24 years old) have always constituted a large proportion of part-timers in Nova Scotia, their predominance has declined over the last 25 years from 46% of part-timers in 1976 to 36% in 2001. Instead, more and more adults between 35-54 years of age now work part-time, increasing from 25% of all part-timers in 1976 to 35% in 2001.

Women make up a much larger share of part-timers than men (70% vs. 30%). Many women work part-time because of family responsibilities, and some have reported to Statistics Canada that they would choose full-time work if flexible hours or better childcare were available.⁴⁵ In Nova Scotia, one in four working women were employed part-time in 1976, compared with one in 20 employed men. By 1996, nearly one in three working women worked part-time compared to one in 10 men. In 2001, 26.5% of employed women and 9.9% of employed men worked part-time in Nova Scotia. These figures are consistent with the Canadian averages.⁴⁶

Part-time work in and of itself is not necessarily problematic, especially when chosen voluntarily and when accompanied by decent hourly pay and job security. However, many Canadians who do work part-time would rather be working full-time, but are unable to find full-time work. These same individuals often experience economic hardship because they have insufficient work hours to make ends meet, and because part-time jobs are more likely to pay poorly, carry no benefits, and provide limited job security. Involuntary part-time work is therefore considered a key indicator of underemployment.⁴⁷ Indeed, Statistics Canada counts the difference between standard full-time hours and the number of hours actually worked by involuntary part-timers as a measure of underemployment, and it adds these wanted but unworked hours (translated into full-time job equivalents) to its “supplementary” unemployment statistics.

⁴³ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa. Here we are comparing the usual work hours of the self-employed specifically with usual work hours of all employees, including those who work part-time and full-time. In other places in this report long hours are calculated for full-time employed persons only, which include the self-employed.

⁴⁴ Idem.

⁴⁵ Advisory Group on Working Time and the Distribution of Work, 1994, op. cit., p. 31.

⁴⁶ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

⁴⁷ Statistics Canada. 1997. *Labour Force Update. Hours of Work*. Vol. 1 no. 2. Catalogue no. 71-005-XPB. Minister of Industry. Ottawa. p. 17.

Statistics Canada has been collecting data on reasons for part-time work since 1976. In 2001, 31% of all part-timers were working part-time involuntarily in Nova Scotia. In Canada the figure was closer to 26%.⁴⁸

In Nova Scotia, involuntary part-time employment is growing much faster than the voluntary types, and is driving the overall upward trend in part-time work. The proportion of involuntary part-timers in Nova Scotia more than tripled between 1976 and 1995, from 13.7% of all part-timers to a striking 43%. After the Labour Force Survey (LFS) questionnaire was revised in 1997, and new definitions of involuntary part-time work were adopted, the figure declined to 29% in 1997 and then increased to 31% in 2001.⁴⁹ In Canada, the rate of involuntary part-time work more than tripled from 10.6% in 1976 to 31.5% in the mid-1990s, and then fell to 26% in 2001. Some of that decline may also be attributable to the new LFS definitions.

According to Statistics Canada and other sources, underemployment is closely related to unemployment, and the rates tend to move in tandem, indicating that many people are "forced into part-time work when economic conditions worsen."⁵⁰ It is not surprising therefore that underemployment rates are higher in the four Atlantic provinces than elsewhere in Canada. In 1993, for example, the underemployment rate in Atlantic Canada was 51%, the highest in the country. With the exception of two years between 1980 and 1994, this region has had the highest rate of involuntary part-time work in Canada every year.⁵¹ By 2001, with the new definition of involuntary part-time work in effect, the involuntary part-time rate in the Atlantic provinces was 35%, still nearly 10 percentage points higher than the Canadian average.

The incidence of part-time work is nowhere higher than in the Netherlands, where part-time jobs make up 33% of all employment, and where 58% of employed women worked part-time in 2000.⁵² However only 6% of these part-timers say they would prefer full-time work (compared to 26% in Canada and 31% in Nova Scotia); so part-time work in that country is genuinely voluntary. In addition, while part-time work in most countries tends to be found in lower-paid occupations offering little opportunity for career advancement, the situation in the Netherlands is very different. Part-time work in the Netherlands tends to be "good" work, with equal hourly

⁴⁸ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

⁴⁹ Revisions were made to the definition of involuntary part-time work and to the LFS questionnaire in 1997, creating a break in the series. As a result, data from 1997-2001 are not fully comparable to earlier data, but comparisons can be made within each series. Before 1997 respondents who usually worked less than 30 hours/week in total in *all* jobs were asked their main reason for working part-time, and they were considered underemployed (or "involuntary" part-timers) if they worked part-time because they could not find a full-time job. In 1997, the LFS questionnaire was redesigned, and respondents who worked part-time in their *main* job were first asked whether they wanted to work more or less than 30 hours a week at a single job or business. If they wanted to work full-time, and did not do so because of "business conditions" or because they "could not find full-time work," rather than for reasons of illness, personal or family responsibilities, or going to school, they were defined as underemployed or involuntary part-time workers. Statistics Canada, 1997, op. cit., p. 17; Statistics Canada. *Guide to the Labour Force Survey*. Catalogue no. 71-543-GIE. pp. 12-13; Available from <http://www.statcan.ca/english/freepub/71-543-GIE/0000071-543-GIE.pdf>.

⁵⁰ Statistics Canada, 1997, op. cit., p. 17. The connection between underemployment and difficult economic times is also made by Noreau, Nathalie. 1994. "Involuntary Part-timers." *Perspectives*. Statistics Canada. Catalogue no. 75-001E. Minister of Industry. Ottawa. p. 25.

⁵¹ Noreau, 1994, op. cit., p. 29.

⁵² OECD. 2002. *OECD Employment Outlook*. OECD. Paris. pp. 64-70.

pay, pro-rated benefits, and equal opportunities for seniority, promotion, training, and career advancement.⁵³ In fact, the Netherlands has laws that make discrimination against part-timers in terms of promotion, pay, and fringe benefits illegal.⁵⁴

For example, in Nova Scotia in 2001, full-time employees were paid on average nearly 50% more per hour than their part-time counterparts. The average hourly wage rate of a full-time employee in 2001 was \$15.34 or \$614.80 a week. The average hourly wage rate for a part-time employee was \$10.13, or \$180.56 a week. In Canada in 2001 full-time employees were paid on average 49% more per hour than their part-time counterparts.⁵⁵

A Statistics Canada study also found that in 2000, the jobs most likely to offer non-wage benefits, including pension plans, extended medical and dental plans, and life/disability insurance, are high-wage, unionized, full-time, and permanent. According to Statistics Canada: "Workers with higher education levels and more work experience were more likely to be in these high-wage, high-benefit jobs." The study also found that certain groups of employees were "doubly disadvantaged," suffering both from less access to non-wage benefits and from lower hourly wages. "These groups include employees with less than high school education, and those in part-time, temporary or non-unionized jobs."⁵⁶

In sum, the high rates of involuntary part-time work in Canada and in the Atlantic Provinces are attributable in large part to the relatively poor conditions of part-time work – lower wages, fewer benefits, and fewer opportunities for career advancement. Improving the quality of part-time work on all these fronts, as in the Netherlands, can potentially encourage shorter work hours, reduce the high rates of unemployment and underemployment in Atlantic Canada, and help improve work-life-family balance.

Contingent or Temporary Work

Nova Scotians are no strangers to temporary work that is seasonal. The very nature of work in the primary sector – fishing, logging, and farming – makes many jobs in these areas that have traditionally provided substantial employment in the province, highly dependent on the seasons. More recently, however, the seasons have had little to do with the increase in temporary or insecure work.

Data on temporary employment in Canada have only been collected by Statistics Canada since 1997. Therefore it is not possible to show a long-term trend.⁵⁷ However, in just four years, from

⁵³ Colman, Ronald. 1999a. *If the Economy is Up, Why are Canadians Down? Impact of Job Casualization on Canadian Workers*. Genuine Progress Index Atlantic. Halifax. p. 3.

⁵⁴ Hayden, Anders. 1998. *A Shorter Workweek? An Answer for the Overworked and Unemployed*. Available from file://A:\swt2\anders shorter workwk.htm. Accessed July 12, 1999.

⁵⁵ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

⁵⁶ Statistics Canada. "Non-wage Job Benefits, 2000." *The Daily*. May 21, 2003. Available from <http://www.statcan.ca/Daily/English/030521/d030521c.htm>. Accessed December 8, 2003. Citing Marshall, Katherine. 2003. "Benefits of the Job." *Perspectives on Labour and Income*. Catalogue no. 75-001-XPE. Vol. 15, no. 2. Statistics Canada. Minister of Industry. Ottawa.

⁵⁷ Andrew Heisz, of Statistics Canada, points out that the increase in temporary work could be due to a cyclical phenomenon, rather than a long-term trend. Heisz, Andrew. Senior Research Economist, Business and Labour

1997 to 2001, seasonal, term or contract, and casual workers have increased in Canada from 11.4% of all workers to 12.8%. One Statistics Canada study estimated that in 1989, only 8% of workers were in jobs with a specified end date.⁵⁸ The incidence of temporary work in Nova Scotia exceeds the Canadian average, with 18% of Nova Scotian workers employed on a temporary basis in 2001, up from 16.7% just four years earlier.

The Advisory Group on Working Time and the Distribution of Work noted in 1994 that temporary workers, like many part-timers, do not generally receive benefits, and that their incomes, like their hours of work, are insecure.⁵⁹

In 2001 in Nova Scotia, the most prevalent form of temporary work was term or contract work, accounting for 37% of temporary work in the province. Seasonal work and casual work accounted for 32% and 31% of temporary work respectively. Roughly the same proportion of all male employees and female employees had temporary jobs in 2001 at about 18% each.⁶⁰

According to the Organization for Economic Co-operation and Development (OECD), temporary work is becoming a "significant feature of the employment landscape" in most OECD countries. Among the OECD's main findings:

- Temporary workers tend to be young, less educated, and low skilled.
- They are rarely covered by collective bargaining agreements, and earn roughly 15% less per hour than permanent workers with similar educational levels and experience, after controlling for a range of individual and industrial characteristics.
- Young people are three times as likely as older workers to hold a temporary job, because these jobs often "serve as entry ports into the world of work."
- Temporary work is often insecure work and is less satisfying than secure work.
- Tasks associated with temporary work tend to be "monotonous" and schedules "inflexible."⁶¹

Shift work

Unorthodox hours are one characteristic of the new economy that has emerged in the last three decades. Our society has always required certain around-the-clock services such as police, fire, hospital services, etc. However, the growth and expansion of the service sector has also meant that hours of service for more and more businesses are offered while most of us sleep (e.g. 24-hour supermarkets). In addition, investments in expensive machinery often require the

Market Analysis Division, Statistics Canada. Reviewer comments. Received October 23, 2003. GPI Atlantic acknowledges this possibility, but has been unable to test the hypothesis because data from earlier points in time were not available from Statistics Canada. As new Statistics Canada data become available in the coming years, it will be possible to assess whether or not current trends in temporary work are long-term.

⁵⁸ Statistics Canada study cited in Advisory Group on Working Time and the Distribution of Work, 1994, op. cit., p. 33.

⁵⁹ The Advisory Group on Working Time and the Distribution of Work, 1994, op. cit., pp. 32-33.

⁶⁰ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

⁶¹ OECD. 2002. *OECD Employment Outlook*. OECD. Paris. pp. 130-137; International Labour Organization. 2003. *Global Employment Trends*. Geneva. p.105.

continuous use of that machinery, to ensure that the value is amortized and the considerable investment recouped in as short a time period as possible. In forestry for instance, expensive tree-felling equipment is often operated 24 hours a day simply so that owners can pay for the machines.⁶²

Approximately 30% of employed Canadians worked shift or non-standard hours in 2001. This figure has increased slightly over the last decade. Rates of shift work for women have remained relatively stable over the last decade, at 28%, while rates for men increased from 28% in 1991 to 31% in 2001.⁶³ Prior to 1990, few data exist on the incidence of non-standard hours among Canadian workers. However Statistics Canada says that historical evidence "points to a rise in the prevalence of shift work in both Canada and the United States throughout the 1970s and 1980s because of the growth of the service sector and dramatic increases in the proportion of students working during the school year."⁶⁴ In general, shift workers tend to be young, single, less-educated, and less affluent.

Despite its prevalence, working shifts is mostly not a choice but a requirement of the job. In fact, evidence now points to a substantial physical and emotional toll that shift work takes on workers, including higher risks of adverse health outcomes and family breakdown.

Unemployment

Except for the Great Depression, the proportion of Canadians without work in the 1980s and 1990s has never been higher in this century, with unemployment rates averaging 9.4% between 1980-89 and 9.8% between 1990-98. In the 1950s only 4.2% of Canadians were out of work, and in the 1960s, the average unemployment rate was just 5%.

Peak unemployment years were 1983 and 1993, when 11.9% and 11.4% of Canadians respectively were jobless. Since 1976, the unemployment rate in Nova Scotia has consistently exceeded the Canadian average. The 1980s saw average jobless rates of 11.8%, and in the 1990s the proportion out of work in Nova Scotia averaged 12%. Since 1996, unemployment rates have declined in both Canada and Nova Scotia, and in 2000 reached their lowest levels in 25 years. Currently the unemployment rate in Canada is 7.4%, and the unemployment rate in Nova Scotia is 9.4%.⁶⁵

Young people both in Canada and Nova Scotia are more likely to be unemployed than other age groups. In 2001, the unemployment rate for 15 to 24-year-old Canadians was 12.8%, and it was 17.7% for 15 to 24-year-old Nova Scotians. The unemployment rate for 20 to 24-year-old Canadians was 10.3%, and it was 15.6% for 20 to 24-year-old Nova Scotians. In all other age groups, Nova Scotia unemployment rates also exceeded the Canadian averages.

⁶² For a detailed description of the economics of mechanized forest harvesting, please see Pannozzo, Linda and Minga O'Brien. 2001. *The Forest Accounts. A Way Forward*. Volume 2. GPI Atlantic. Halifax.

⁶³ Shields, Margot. 2002. "Shift Work and Health." *Health Reports*. Statistics Canada. Catalogue no. 82-003. Minister of Industry. Ottawa. p. 28.

⁶⁴ Idem.

⁶⁵ Current rate for Canada from Statistics Canada. Rate for Nova Scotia from the Department of Finance.

In Nova Scotia, where average unemployment rates have remained consistently higher than the national average, the provincial averages nevertheless conceal marked intra-provincial disparities, with some regions considerably worse off than others. Unemployment was least severe in the Halifax area in 2001 at 7.1% – below the Canadian average. But a short drive in this province does not only result in changes in weather – the official jobless rate also soars as one leaves the capital, reaching a staggering 17% in Cape Breton and 19.1% in the industrial Cape Breton heartland of Sydney. It should be noted that the official unemployment rates exclude discouraged workers who have given up looking for work. So the actual jobless rate in Cape Breton is larger than the official figures indicate.

Statistics Canada only began collecting data on labour force estimates by region in 1987. Those data indicate that the official unemployment rate in Cape Breton declined by two percentage points, from 19% in 1987 to 17% in 2001. There have also been improvements in the official unemployment rates on the North Shore and the Annapolis Valley, where 1987 levels were 14.8% and 11.4% respectively, falling to 11.4% and 7.8% in 2001. Halifax also saw a decline from 8.8% in 1987 to the 2001 level of 7.1%.⁶⁶

However, according to current estimation methods, the official unemployment rate actually falls when the unemployed stop looking for work! For instance, if the labour force consisted of 900 employed and 100 unemployed people, the unemployment rate would be 10%. But if the 100 unemployed people became discouraged with their job prospects and stopped looking for work, they would no longer be counted as members of the labour force and the total labour force would drop to 900. The number of officially unemployed would then be zero.⁶⁷ For example, in the U.S. recently, the unemployment rate fell to 6.2% from 6.4% because of the sharp rise in the number of "discouraged workers."⁶⁸ Discouraged workers – those who are out of work but have given up looking for work – are left out of the official numbers.

The official unemployment statistics also exclude the underemployed – those who cannot find sufficient hours to make ends meet and who are therefore working part-time because they cannot find full-time time work (involuntary part-timer workers). (The term "underemployment" also sometimes refers to those who are working beneath their skill level because they cannot find suitable work, but these underemployed are not included in Statistics Canada's supplementary unemployment statistics). Official statistics also exclude many women who are at home with children and would like to have paid work but who cannot find a job with a flexible work schedule or who cannot afford or find suitable daycare. The official statistics also exclude students who remain in school because they cannot find work, people on short-term job creation projects, the prematurely or forcibly retired, and those in prisons.

Statistics Canada therefore compiles "supplementary" unemployment statistics that include at least some of these "hidden unemployed" – discouraged workers and the underemployed portion of involuntary part-time work. The latter is assessed by calculating the difference between the

⁶⁶ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

⁶⁷ Yates, Michael, D. 1994. *Longer Hours, Fewer Jobs. Employment and Unemployment in the United States*. Monthly Review Press. New York. p. 62.

⁶⁸ Stinson, Marian. "U.S. Work Force Still Shrinking." *The Globe and Mail*. August 2, 2003. Toronto. p. B1.

hours actually worked and the full-time hours these employees are seeking, assessed as full-time job equivalents. For example, if someone is working 20 hours a week but wants to work 30, this person is counted as one-third of an unemployed person in the supplementary unemployment statistics. In 2001, once these two categories of "hidden" unemployed were added to the official numbers, the unemployment rate was three percentage points higher for Canada, and more than four percentage points higher for Nova Scotia.

Discouraged workers tend to be concentrated in areas of high unemployment. In 1989, about one-third of all discouraged workers in Canada resided in the four Atlantic provinces although the region accounted for only 7.6% of the country's labour force in that year.⁶⁹ In 2001, the Atlantic provinces accounted for 36% of the country's discouraged workers and 7.2% of the country's total labour force.⁷⁰

In 2001, once some of the "hidden" unemployed are added in, the unemployment rate in Nova Scotia increases from 9.7% to 14%. Using the more comprehensive measure, nearly one in four youth (15 to 24-year-olds) in the province were out of work in that year. For older workers in the 25-44 and 45-and-over age groups, the unemployment rates increased by three and four percentage points respectively, when discouraged workers and underemployment estimates were added. For those over 55, once these hidden unemployed were included, the unemployment rate nearly doubled from 6.8% to 12%.

Statistics Canada data on the duration of unemployment indicates that on average, the unemployed were without work for longer periods in 2001 than they were 25 years earlier. In Canada the average number of weeks that an unemployed person was without work increased from 13.9 weeks in 1976 to 24 weeks in 1996, before falling again to 15.4 weeks in 2001. In 2001, unemployed Nova Scotians were without work for an average of 15.9 weeks, up from 13.9 weeks in 1976, and down from 22.1 weeks in 1996.

The OECD defines the long-term unemployed as those who have been continuously without work for at least one year.⁷¹ In Canada the proportion of the unemployed who were out of work for 52 weeks or more in 1976 was 3.8%. This proportion soared to 16.3% in 1996 and then dropped to 9% in 2001, but is still more than double the levels of 25 years earlier. In Nova Scotia the jobless have experienced a similar increase in long-term unemployment – up from 2% of the unemployed in 1976 to 8.6% in 2001, after peaking in 1996 at 14.5%.

Studies have shown that long average spells of unemployment have greater economic and social costs than shorter spells. These costs include the depreciation of skills, and loss of confidence, which may lead to eventual withdrawal and "exclusion" from the labour force.⁷² Studies have

⁶⁹ Akyeampong, Ernest B. 1989. "Discouraged Workers." *Perspectives*. Statistics Canada. Minister of Industry. Ottawa. pp. 64-69; and by the same author: 1992. "Discouraged Workers – where have they gone?" *Perspectives*. Statistics Canada. Catalogue no. 75-001E. Minister of Industry. Ottawa. pp. 38-43.

⁷⁰ The proportion of the total labour force was calculated using data from Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

⁷¹ OECD, 2002, op. cit., pp. 191-194.

⁷² Williams, Colin C. and Jan Windebank. 1998. "The Unemployed and Paid Informal Sector in Europe's Cities and Regions." In *Unemployment and Social Exclusion. Landscapes of Labour Inequality*. Paul Lawless, Ron Martin, and Sally Hardy (eds). Jessica Kingsley Publishers. London. p. 38.

also indicated that those who experience longer spells of unemployment are at greater risk of illness and premature death.

Technology and the Shift from Goods to Services

These trends outlined above are taking place against a larger backdrop where technologies have transformed the workplace and the place of the worker in it.

In an increasing number of jobs, the computer has become the brain or control centre – doing the thinking, organizing, planning, and even the monitoring of the system's performance.

According to Statistics Canada, in just over a decade, the proportion of workers using a computer at their main job has increased by more than 70%, from 33% of workers in 1989 to more than half (57%) of workers in 2000. Nearly 6.4 million Canadian workers (80% of those using computers in their main jobs) worked at their computers every day. Other industrialized countries are experiencing the same upward trend.⁷³

In the last century we have shifted from a society that produces goods to a society that produces services.⁷⁴ In the U.S., 90% of the workers produced goods in 1900. By 2000, 90% produced services.⁷⁵ Here in Canada more than 70% produced services by the mid-1990s.⁷⁶ The shift in the nature of work is so dramatic that some have likened it to a revolution, not unlike the industrial one that preceded it.

Forestry, fishing, and farming, for example, are primary goods sectors where the job losses due to automation have been significant. For example, according to Statistics Canada, there were 1.4 million farmers in Canada in 1939. By 1995 that number had dwindled to 431,000, a 70% drop.⁷⁷ During this same time period the total Canadian labour force more than tripled from 4.1 million in 1939 to 13.5 million in 1995. Farmers made up 35% of the Canadian labour force in 1926 but only 3% in 1995. This dramatic change in the structure of the labour force has been felt most acutely in largely rural provinces like Nova Scotia where, in 1881, farm families comprised approximately 70% of the population. By 1986 they made up only 2%.⁷⁸

⁷³ Marshall, Katherine. 2001. "Working with Computers." *Perspectives*. Statistics Canada. Catalogue no. 75-001. Minister of Industry. Ottawa. pp. 9-11.

⁷⁴ The goods-producing sector refers to both the resource sector and the manufacturing sector. It includes agriculture, forestry, mining, fishing, oil and gas, utilities, construction, and manufacturing. Everything else falls under the broad category of the services-producing sector.

⁷⁵ In his book, *The Careless Society: Community and its Counterfeits*, John McKnight writes that the very nature of human development has been defined by the work people do and the tools they use: hunters, gatherers, farmers, Bronze Age, Iron Age, Industrial Revolution. He says we have entered a new age – the Service Economy. McKnight, John. 1995. *Careless Society. Community and its Counterfeits*. Basic Books. New York. p. 92.

⁷⁶ Osberg, Lars, Fred Wien, Jan Grude. 1995. *Vanishing Jobs. Canada's Changing Workplaces*. James Lorimer and Company. Toronto. p. 59.

⁷⁷ Statistics Canada. 2000b. *Human Activity and the Environment*. Catalogue no. 11-509-XPE. Minister of Industry. Ottawa. p. 96.

⁷⁸ Osberg, Lars, Fred Wien, Jan Grude. 1995. *Vanishing Jobs. Canada's Changing Workplaces*. James Lorimer and Company. Toronto. p. vi.

The increasing mechanization of agriculture, which includes extensive use of machines⁷⁹ and chemicals,⁸⁰ has meant fewer farmers. In 1921 in Canada, there were 22 agricultural workers for every tractor and combine. By 1996, there were more tractors and combines than there were agricultural workers. The question that needs to be asked is "are farmers better off today than they were, say, 30 years ago?" Not according to Statistics Canada. Net farm income, as a share of total farm cash receipts, dwindled from 28% in 1971 to only 6% in 1997 in part because of the increasing cost of farm inputs such as machinery, energy, fertilizers, and pesticides.⁸¹

The increased productivity that often results from technological changes may increase economic activity without creating better employment opportunities for many people. In fact, in both the United States and Canada, much of this new productivity is taking the form of "jobless economic growth" – where state-of-the-art technology is boosting production and profits while jobs are being shed.⁸²

Much of the new economic activity is generating jobs in the Third World, where an abundant supply of cheap labour keeps labour costs down and where working conditions are less subject to government regulation.^{83 84} To give just one example, the call centre industry is now shedding jobs in western countries and rapidly expanding its operations in India, where average call centre salaries are less than 10% of those in the U.K. or North America. In just three years, the number of Indian call centres has grown from 50 to 800. Indian author, Praful Bidwai remarks that the call centres are reducing educated, young Indian undergraduates to "cyber-coolies":

"They work extremely long hours badly paid, in extremely stressful conditions, and most have absolutely no opportunities for any kind of advancement in their careers.... It's a dead end, it's a complete cul-de-sac. It's a perfect sweatshop scenario, except that you're working with computers and electronic equipment rather than looms."⁸⁵

⁷⁹ In 1921 there were two tractors and combines for every thousand hectares of cropland. By 1996 there were 24. Statistics Canada. 2000b. *Human Activity and the Environment*. Minister of Industry. Catalogue no. 11-509-XPE. p. 96.

⁸⁰ In 1931 approximately 254,000 tonnes of fertilizer were used in Canada. By 1996 about 17 times more fertilizer (4.3 million tonnes) was in use. In the Canadian west, sales of chemical fertilizers increased by 370% between 1967 and 1997. The use of chemical pesticides (including herbicides) also increased. Between 1970 and 1995 the area treated with herbicides increased 18-fold nationally. Idem.

⁸¹ Total cash receipts and operating expenses have both risen sharply. Ibid. p. 99. See also Scott, Jennifer. 2001. *The Nova Scotia GPI Soils and Agriculture Accounts: Volume 1 – The Economic Viability of Farming*. GPI Atlantic. Halifax.

⁸² Menzies, Heather. 1996. *Whose Brave New World? The Information Highway and the New Economy*. Between the Lines. Toronto. p. 143.

⁸³ Idem.

⁸⁴ According to the International Labour Organization, forced labour, slavery, and human trafficking are on the rise around the world. The report attributes the increase in these conditions to a number of factors, including "poverty, unemployment, civil disorder, political repression and gender and racial discrimination," creating an environment in which the vulnerable (mostly women and children) can be easily exploited. A combination of anti-poverty and labour market regulatory measures are needed to counter these trends, says the report. From ILO. 2001. *ILO Study Finds Forced Labour and Human Trafficking on the Rise. Migrants, Women and Children are Especially Vulnerable*. Press Release. May 25, 2001. Geneva.

⁸⁵ BBC News. December 11, 2003. Available from http://news.bbc.co.uk/1/hi/world/south_asia/3292619.stm.

The Global Assembly Line

Globalization and "free" trade have therefore resulted in a labour market where Canadian workers are now competing with cheap labour abroad. At the same time, technology continues to reduce available work and increase the capital intensity of production and growth. The growing polarization of hours described above in large part reflects the emergence of two separate work forces – a "core" work force of highly educated and highly skilled employees, working longer hours and putting in higher rates of unpaid overtime than ever, and a "contingent" work force of mostly unskilled, less educated workers that can be hired and laid off in response to market conditions and fluctuations in demand.⁸⁶ The latter are typically underrepresented by trade unions that often protect their own "core" members through contract clauses requiring layoffs according to seniority, thus reinforcing the increasing segmentation of the work force.⁸⁷

There is little disagreement that global pressures on employers to reduce labour costs in the interests of competitiveness contributed to growing job insecurity in the 1990s and exerted a downward pressure on real wages.

Global pressures have also resulted in the move toward "just-in-time" production, where the goal is to have low inventory (both in inputs and output) in order to boost the bottom line and produce quicker returns on investment. A trim inventory means that very little capital is invested in excess stock. This kind of production usually means more variety for consumers, greater capacity to respond quickly to shifts in consumer demand, and lower costs for firms. But there is a price to be paid as well for "just-in-time" production. According to the Advisory Group on Working Time and the Distribution of Work:

"The price of variety and speed in delivering services and products is variability and uncertainty in the labour market.... [I]nvariably demand fluctuates from one week to the next, even in a growing market, making the supplier want to hire people who will also work variable hours, on demand. This flexibility is often gained by reducing the number of core, permanent, full-time workers to a minimum, making the regular hours of work more variable, or increasing reliance on people whose hours of work can be easily changed: temporary workers, part-time workers without fixed hours, or so-called self-employed contractors such as homeworkers."^{88 89}

⁸⁶ Because of what are called "lean production techniques," the number of "core" workers, or those in permanent jobs, shrank during the 1990s. As jobs are shed and the company is made more "lean," the core workers often find themselves doing the jobs of the lost workers – working longer and more variable hours in the form of paid and unpaid overtime. Jackson, Andrew and David Robinson. 2000. *Falling Behind. The State of Working Canada, 2000*. Canadian Centre for Policy Alternatives. Ottawa. p. 50.

⁸⁷ Colman, Ronald. 1999a. *If the Economy is Up, Why are Canadians Down? Impact of Job Casualization on Canadian Workers*. GPI Atlantic. Halifax. p. 3.

⁸⁸ Advisory Group on Working Time and the Distribution of Work, 1994, op. cit., p. 29.

⁸⁹ A homemaker is someone who works from home and is paid by the piece. These workers are usually isolated and unorganized (non-unionized), poorly paid, and without benefits. This type of work has been very widespread among immigrants working in the garment industry. It is also found in insurance, electronics, and even automobile assembly. For instance, General Motors farms out subassembly work, with one report describing rural workers in the Midwest piecing together suspension components at their kitchen tables. From Yates, Michael. 1994. *Longer Hours, Fewer Jobs. Employment and Unemployment in the United States*. Monthly Review Press. New York. p. 48.

The Advisory Group concluded that as a result of the structural changes taking place in Canada and elsewhere, it is "quite possible, and even likely, that the non-standard job of today will become the standard job of tomorrow."

Globalization has contributed markedly to the new forms of contingent and precarious work described above, and for many has created greater insecurity rather than the opportunity and affluence promised by many free trade advocates. On balance, both labour and government appear to have lost power since the free trade agreements. According to Pierre Pettigrew:

*"Globalization is an invisible, anonymous process, driven by abstract, nonhuman forces and factors. As it bypasses the authority of states, reducing their power, it sets up the marketplace as, in effect, the new god that we must worship, replacing the nation-state. The trouble is, this new god, though it may be more efficient, is incapable of taking a long-run view and can think only in material terms. The state, for all its shortcomings, is made up of people – people whose life experience may give them a long-term perspective and whose children make them likely to have a broad-ranging concern for the future. Furthermore, because the state is run by people, if we don't like what they're doing to us, we can eventually change them. Sooner or later, the state must respond to the demands of the people living in it. However, if we don't like what the market does, we can't repeal its laws. If we storm the bunker of globalization, we won't find a madman there or a clique of conspirators – just an empty space."*⁹⁰

With the growth of insecure, casual, marginal service-sector jobs, and with technology rendering many jobs redundant, employees are increasingly powerless to resist demands for unpaid overtime and other infringements of what were once considered employee "rights." The trends briefly outlined above indicate a dramatic change in the nature of work, and in employer-employee relationships. Hours of work have become more polarized and less predictable, widening the gap between rich and poor, and between a well-paid, highly educated, core workforce on the one hand, and a large mass of displaced blue-collar workers and low-paid contingent workers with few rights and benefits on the other.

2. THE COSTS OF OVERWORK AND UNDERWORK

"Many of the employed are working longer hours, resulting in high levels of stress, poorer health, and a lack of time for the things that make life worth living. Many young people are losing hope of ever finding decent jobs. The costs of unemployment – such as unemployment benefits, social assistance, and health-related expenses – drain the public treasury. Economic insecurity provides fodder for a politics of intolerance, in which immigrants, minorities, and the poor become scapegoats for society's failures.

⁹⁰ Pierre Pettigrew, then Canadian Minister for International Cooperation, addressing conference on African Development in September, 1996. Cited in Cayley, David. 1998. *The Expanding Prison. The Crisis of Crime and Punishment and the Search for Alternatives*. Anansi Press. Toronto. p. 77.

Technological advance, which once promised to bring on an "Age of Leisure," instead seems to be depositing a downsized and devastated scrap heap of humanity in its wake."
– Anders Hayden⁹¹

In our conventional economic accounts, the costs associated with many of the trends discussed above are either invisible or are actually counted as contributions to economic prosperity and wellbeing. The longer the work hours, and the more we spend on health care, crime, and family breakdown – all of which are highly correlated with unemployment – the more the economy grows. This growth is then mistakenly taken as a sign of prosperity and progress.

The Genuine Progress Index (GPI) recognizes that the unequal distribution of work hours, growing inequality, and unemployment carry economic costs that must be explicitly measured and made visible to policy makers if they are to have the full range of information they need to make decisions.

This report examines costs associated with the trends in work hours described in Part 1 – costs that are currently invisible in two ways in standard accounting mechanisms:

- Health care costs, spending on prisons and other justice costs, and spending related to the breakdown of families (divorce, for instance) are currently counted as direct contributions to the GDP.
- Production losses due to unemployment, underemployment, or fatigue and errors resulting from excessively long work hours represent potential lost production that depresses the GDP, but these costs are not made explicit.⁹² Because these production losses do not register anywhere in our current measures of progress, our conventional measures can provide no estimate of the degree to which these losses limit our economic potential.

In the following section we will summarize some of the economic and social costs associated with unemployment, underemployment, and the growing polarization (unequal distribution) of work hours in the labour market, and with the growing income and wealth inequality associated with those trends. We will also discuss some of the environmental costs associated with long and short work hours.

⁹¹ Hayden, Anders. 1999. *Sharing the Work, Sparing the Planet. Work time, consumption and ecology*. Between the Lines. Toronto. pp. 6-7.

⁹² For example, it has been estimated that work fatigue produces accidents, errors, and productivity losses worth \$100 billion annually in the U.S. alone. Some of the world's worst disasters – including the Exxon Valdez oil spill, the Chernobyl nuclear catastrophe (estimated cost \$300 billion), the Three-Mile Island nuclear accident, and the deadly Union Carbide chemical leak in Bhopal, India – have been attributed to work fatigue (all occurring during the night shift), as have more than 50% of trucking accidents. Studies point to an estimated 25% decline in sleep time, a 15% increase in clinical insomnia, and a 2-8 fold increase in ulcers and related gastrointestinal problems – all related at least in part to overwork and work stress. Shift workers have a 60% higher rate of divorce than workers putting in regular hours. Available from numerous sources including CNN. *Lack of Sleep America's top health problem, doctors say*. Available from <http://www.cnn.com/HEALTH/9703/17/nfm/sleep.deprivation/>; Canada Safety Council. *Fatigue*. Available from <http://www.safety-council.org/info/OSH/fatigue.htm>.

Where data are available, quantitative measures have been used to estimate the potential dollar value of some of these costs. However, there are many instances where these kinds of quantitative data are not available, and where monetary estimates are not possible, especially in assigning value to services not traded in the market economy. In these cases, qualitative measures have been used, and the benefits and costs of the trends noted in Part 1 have been described in accordance with the available evidence rather than quantified in dollar terms.

For details on the methodologies used and how the dollar estimates were derived, please refer to Part 2 of the report.

Costs of Stress associated with Long Work Hours

Excessively long work hours are one significant contributing factor to work stress, but by no means the only one. Studies have found that long work hours usually exacerbate stress when *combined* with lack of control, repetitive routine, lack of support, and other negative work conditions. While existing evidence does not allow us to separate out the stress-induced costs of long work hours from other forms of work stress, the following cost estimates are essential to consider, because they reveal that work stress is very costly and because the evidence indicates that long hours and work overload contribute substantially to this work stress. Therefore, long work hours should at least be seen as carrying hidden potential costs, rather than being uncritically assessed as positive contributions to the economy, as GDP-based measures of progress and conventional accounting mechanisms implicitly assume.

Excessive working hours may result in a number of health effects including: ⁹³

- increased risk of heart disease
- sleep difficulties
- increased tiredness
- sexual disorders
- gastric disturbances
- headaches/migraine
- backaches
- dizziness
- weight loss or weight gain
- increased incidence of accidents
- apathy
- depression
- irritability, intolerance, boredom, cynicism
- burnout

However, because of the complexity of the issues, the interaction of a number of factors, and the difficulty of confirming direct one-way causal relationships, it is very challenging to estimate with any degree of accuracy 1) the specific health costs resulting from stress that is directly

⁹³ London Hazards Centre. 1994. *Hard Labour. Stress, Ill-health and Hazardous Employment Practices*. London Hazards Centre Trust Ltd. London. p. 37.

attributable to long work hours and 2) the lost productivity associated with stress-related absenteeism that may be specifically related to working too many hours.

However, based on cost estimates cited in the literature, we have attempted to quantify the cost of absenteeism due to workplace stress, and then applied these estimates to Statistics Canada's 1994 General Social Survey (GSS) finding that 32.8% of workers reported stress in their work environment from too many demands or hours. We have extrapolated from these sources to estimate that the absenteeism costs specifically attributable to long work hours in Nova Scotia were nearly \$70 million in 2001. It should be noted that the methodology used to estimate these absenteeism costs was based only on wages, whereas actual economic losses based on GDP or output per worker, would be considerably higher.

Long Work Hours and the Family

Workplace stress caused by long work hours also takes its toll on family life.

In an important Health Canada study on the "work-life" conflict, the authors found that the 1990s were a "turbulent" period for most families, which found themselves struggling for some job security. The study found that:

- Throughout the 1990s a greater percentage of Canadian workers assumed more responsibilities (i.e. the number of working women, dual-earner and single-parent families, sandwich employees,⁹⁴ and employees with responsibilities for elder care increased over the decade).
- Labour market changes and technological changes increased job insecurity, elevated work demands, and blurred the boundary between work time and family time."⁹⁵

The study also found that work-life conflict is resulting in:

- More stress – now twice as prevalent as it was 10 years ago.
- Increased absenteeism – employees experiencing high levels of work-life conflict are away from work three times as often as those with low work-life conflict.
- Lower job satisfaction – job satisfaction among workers has decreased by nearly 30% since 1991.
- Lower commitment to employers – survey results show that employee commitment has decreased by 24% since 1991.⁹⁶

In sum, the direct and indirect costs associated with the impact of long work hours and other work stresses on family life, as described in the literature, include:

⁹⁴ "Sandwich employee" is a phrase used for a woman who experiences pressure from both sides of the family dependence scale, and who takes care of both young children and elderly parents.

⁹⁵ Higgins, Christopher, and Linda Duxbury. 2002. *The 2001 National Work-Life Conflict Study: Report One*. Health Canada. Ottawa. p. 4. Available from <http://www.hc-sc.gc.ca/pphb-dgpsp/publicat/work-travail/>. Accessed September 3, 2002.

⁹⁶ Preliminary findings were summarized in Canadian Policy Research Networks. 2001. "New Data Show Increasing Conflict Between Work and Rest of Life." *Networknews*. No. 16. Ottawa. p. 1.

- Health effects on stressed individuals and their partners, including depression, burnout, and heart disease, as well as numerous other stress-related disorders;
- Organizational costs, including higher absenteeism and lower productivity;
- Costs of family breakdown (lawyers fees, lost productivity in the work place, human costs, societal costs, and further health costs);
- Effects on children (short and long-term health effects, and adverse psychological and learning impacts of "parental deficit" and family breakdown, including the long-term costs associated with children being socialized by television sets instead of by their parents);
- Costs associated with increased drug and alcohol abuse;
- Long-term societal costs associated with the deterioration of family life due to increased parental absence from the home.

Loss of Leisure

In the 1950s, the promise of new technologies and skyrocketing productivity led many academics to predict that by the year 2000 we would have a 20-hour workweek.⁹⁷ Imagine, they asked, what could be done with all that leisure time – more vacations, more books to read, more time to spend with family and friends, more time just to live. Writers in the 1950s and 1960s regularly imagined such a world, and speculated about the massive social adjustments that would be required to accommodate the anticipated explosion in free time.

Instead, in a cruel irony, leisure time is shrinking for many people, and work hours are expanding. Even weekends, once the refuge from work for many, have been invaded by work. According to one Statistics Canada analysis: "Changes in the way we live – from more women working full-time to 24-hour just-in-time production schedules and the growth of self-employment – have changed many people's relationship to Saturday and Sunday." Statistics Canada data confirm that Canadians who work full-time often use the weekend to do more work, both paid and unpaid.⁹⁸

Time-use data indicate that leisure time declines with marriage and with raising children. On average, married people have less free time in a day than single people do and married people with young children have the least amount of free time. According to Statistics Canada's GSS in 1998, employed single men and women without children enjoy 6.2 and 6.0 hours of leisure per day respectively. Married men and women without children have 5.4 and 4.9 hours of leisure per day respectively. Married men and women with children have 4.4 and 4.3 hours of free time while their full-time employed counterparts have the least amount of free time at 3.6 hours a day (Table ES2).

The literature overall indicates clearly that a large segment of working men and women, particularly full-timer dual earners with children, have less free time today than they did in the

⁹⁷ Lightman, Alan. 2002. "Prisoners of the Wired World." *Globetechnology*. March 16, 2002. Available from <http://www.globetechnology.com>. Accessed March 17, 2002.

⁹⁸ Silver, Cynthia and Susan Crompton. 2002. "No Time to Relax? How Full-time Workers Spend the Weekend." *Canadian Social Trends*. Catalogue no. 11-008. Statistics Canada. Ottawa. p. 20.

1960s. Comparative time-use studies also indicate that Canadians generally have less free time than most western Europeans and about the same amount of free time as Americans. For example, the average Danish citizen has 11 hours more free time per week than the average Canadian.⁹⁹

Table ES2. Leisure time in Canada, 1998.

Status	Leisure Time for Men (No. Of Hours/Day)*	Leisure Time for Women (No. Of Hours/Day)*
Single, no children	6.2	6.0
Married, no children	5.4	4.9
Married with children under 25	4.4	4.3
Married with children, working full-time	3.6	3.6

*Averaged over a 7-day week

Note: For the first three rows in this table, leisure time data are averages for all employed men and women working full-time or part-time. The fourth row gives the leisure hours of *full-time* dual-earner parents only.

Source: Fast et al., 2001, op. cit., pp. 20-23. Based on Statistics Canada, *General Social Survey* data, 1998.

When free time and personal care time are added, women lost personal time in all four Atlantic provinces between 1992 and 1998. In 1992, women in all four Atlantic provinces still had more free time than women in other parts of Canada. By 1998 rates of free time and personal care time for women in the Atlantic region were at or below Canadian levels. In some cases, as in Nova Scotia, the changes in work patterns and longer average work hours for certain segments of the working population have manifested in reduced free time.

Workers in western European countries enjoy as much as three times more vacation time each year as most Canadians (or Americans) do. Based on the amount of vacation time provided in relation to years of service, Canadian workers would have to work, on average, 15 years before they received the vacation time mandated by some European countries after just one year of work.

While two weeks vacation is required after one year of employment in Canada, workers actually receive various amounts of vacation time depending on where they work, whether they are unionized, and how long they have been employed. Unionized workers receive more vacation time than non-unionized workers, with 60% of unionized workers and only 31% of non-unionized workers receiving more than 16 days vacation per year. Overall, only one in four Canadian workers enjoyed more than four weeks paid vacation a year in 1995.

⁹⁹ Harvey, Andrew. 1995. "Canadian Time Use in a Cross-National Perspective." *Statistics in Transition*, Vol. 2, no. 4. p. 603.

In Germany, by contrast, 70% of all employees receive at least six weeks of vacation a year, and most of the others get between five and six weeks.¹⁰⁰ Denmark, France, Austria, and Spain have 30 days vacation a year, and Sweden has 32.¹⁰¹

Non-Standard Work and Growing Inequality

Partly to blame for increasing inequality in our society is the growing disparity between the different kinds of work available – particularly between full-time, “permanent,” highly skilled work on the one hand, and insecure, temporary, marginal jobs on the other.

In 1998 low-income Nova Scotians (the bottom 20% of all households including both economic families and unattached individuals) had the lowest average disposable income in the country at \$9,293.¹⁰² By 2001, Nova Scotia's poorest 20% of households ranked third lowest in the country with an average disposable income of \$10,604.¹⁰³ ¹⁰⁴ Only the poor in British Columbia and New Brunswick had lower incomes.

Between 1990 and 1998, all income groups in Nova Scotia saw their disposable income decline, but this decline was not evenly shared. In that period, the poorest 20% of households in the province lost nearly 25% of their disposable income while the rich lost less than 1%. In 1990 the richest 20% of Nova Scotian households had 6.2 times as much disposable income as the poorest 20%. By 1998, they had 8.2 times as much. In 2001, the richest 20% of households had 7.7 as much disposable income as the poorest 20%.¹⁰⁵ In fact, between 1990 and 2001 the poorer the household, the bigger the percentage drop in income, leading to a growing gap between rich and poor. However, while the poorest Nova Scotians lost the most in both percentage terms and in actual constant dollars – \$1,782 between 1990 and 2001 – the richest Nova Scotians gained \$5,512 in constant dollars, an increase of 7.2%. Middle income Nova Scotians (3rd quintile) lost \$616 in actual constant dollars between 1990 and 2001.¹⁰⁶

Statistics Canada data for 2001 show that the average real disposable incomes of all families (economic families and unattached individuals) in Canada stagnated or declined between 1992 and 1997, except for the highest quintile which registered improvements starting in 1995. Between 1997 and 2001, improvements in disposable income were seen for all quintile groups.

¹⁰⁰ German Embassy. “Questions and Answers about Germany.” Washington D.C. Available from www.germany-info.org.

¹⁰¹ Economic Policy Institute World Almanac. Cited in *The Timesizing Wire*. Available from www.timesizing.com/1/vacatns.htm.

¹⁰² Statistics Canada. 2003e. *Income Trends in Canada, 1980-2001*. Catalogue no. 13F0022XCB. Table 701. Minister of Industry. Ottawa. Disposable income here has not been adjusted for family size.

¹⁰³ Idem. New Brunswick's lowest quintile (20%) had \$10,560 in disposable income; British Columbia's lowest quintile had only \$9,702.

¹⁰⁴ Disposable income is income after taxes and government transfers (social assistance, public pensions, EI benefits, tax credits, etc.). It is used here instead of market income because it is “the level at which most analyses concerned with welfare and well-being focus.” Heisz, Andrew, A. Jackson, and G. Picot. 2002. *Winners and Losers in the Labour Market of the 1990s*. Statistics Canada. Catalogue no. 11F0019, no. 184. Ottawa. p. 4.

¹⁰⁵ In 1998 the poorest 20% of Nova Scotia households survived on \$9,293 a year (in \$2001) (after taxes and transfers), while the richest 20% had more than \$76,000 in disposable income. Statistics Canada. 2003e. *Income Trends in Canada, 1980-2001*. Catalogue no. 13F0022XCB. Minister of Industry. Ottawa. Table 701.

¹⁰⁶ Idem.

However, the data confirm that in the second half of the 1990s, the greatest gains were enjoyed by the highest quintile.¹⁰⁷ Between 1996 and 2001, inequality in income distribution between the quintiles grew. Statistics Canada found that the after-tax (disposable) income of the highest 20% (5th quintile) of families in Canada in 1996 was eight times that of the lowest quintile. By 2001 the richest 20% had average disposable incomes that were 8.7 times those of the lowest 20%. Between 1993 and 2001 the gains by the highest quintile were largest and gains by the lowest quintile were smallest, contributing to further growth in inequality.¹⁰⁸

In sum, the recent improvements in disposable income for the 3rd, 4th and 5th quintiles have not been experienced by the poorest 40% of households in Canada, whose incomes have increased only marginally. Thus, the increase in income inequality and the growing gap between rich and poor in Canada has become increasingly pronounced in the last decade.¹⁰⁹

In Nova Scotia the incidence of low income among families increased in the 1990s from 7.4% of families in 1990 to 10.5% in 1996, and 11.1% in 1998, and then declined to 7.9% in 2001, still above the 1990 rate. In Canada the incidence of low income among families increased in the 1990s from 8.3% in 1990 to 10.7% in 1996, and then declined to 7.6% in 2001.¹¹⁰

Single mothers have the highest rates of low income among all demographic groups in Canada, but their low-income rates declined sharply from 2000 to 2001. In Nova Scotia, average real incomes (in constant 2001 dollars) of single mothers rose from \$18,229 in 1997, the lowest in the country, to \$26,352 in 2001, an increase of 44.6%, largely due to sharp increases in employment among single mothers.¹¹¹ Since the mid-1990s, cuts in social assistance payments to single mothers have pushed more single mothers into the labour force, leading to higher incomes but also to increasing levels of time stress as these mothers struggle to juggle their paid and unpaid work responsibilities. As noted, full-time employed single mothers put in an average 75-hour workweek when both paid and unpaid work are considered.¹¹²

In Nova Scotia in 2001, 38,000 or nearly one in five children (19.2%) lived below the base low-income cut-off – compared to the Canadian average of one in six children (15.6%). The children experiencing the highest rates of poverty are those living with lone-parent mothers – 53.9% compared to 12.8% living in a two-parent family.¹¹³

¹⁰⁷ The term “quintile” simply means “one-fifth,” and refers here to five income groups ranked from the top 20% of incomes to the bottom 20% of incomes. To assess income by quintile, all incomes in a given population are ranked from the lowest to the highest and then divided into five groups. Thus the bottom one-fifth of incomes is referred to as the “first quintile,” the top one-fifth as the “fifth quintile,” and the middle 20% of incomes as the “third quintile.”

¹⁰⁸ Statistics Canada. 2003f. *Income in Canada 2001*. Catalogue no. 75-202-XIE. Ottawa. p. 74. and Table 7.2. In 2001 the average disposable income of the highest quintile in Canada was \$101,628 while the lowest quintile averaged only \$11,675 in disposable income.

¹⁰⁹ Statistics Canada, 2003e, op. cit., Table 701.

¹¹⁰ Statistics Canada, 2003e, op. cit., Table 804. Prevalence is based on after-tax income.

¹¹¹ Statistics Canada. 2003f. *Income in Canada 2001*. Catalogue no. 75-202-XIE. Ottawa. Especially Tables 6.1 and 8.1, and p. 90.

¹¹² Colman, Ronald. 2003. *A Statistical Profile of Women's Health in Canada*. GPI Atlantic. Halifax.

¹¹³ Raven, Pauline and Lesley Frank. 2003. *Promises to Keep: The Nova Scotia Child Poverty Report Card, 1989-2001*. The Canadian Centre for Policy Alternatives. Halifax. p. 1.

Statistics Canada found that the disposable income (after taxes and transfers) of the richest 20% (fifth quintile) of all families in Canada rose by \$18,127 – an increase of 21.7% from 1993 to 2001. In the same time period, the lowest quintile fared the least well on the basis of disposable income with an increase of only \$182 or 1.6%. The middle three quintiles had increases of 11% to 14% in disposable income. Therefore, as noted by Statistics Canada, "gains by the highest quintile were largest and gains by the lowest quintile were smallest," contributing to further growth in inequality.¹¹⁴

In Nova Scotia the situation was similar. The real disposable incomes of all families stagnated or declined for all quintile groups between 1990 and 1997. Between 1997 and 2001 real disposable incomes increased for all quintiles, with the smallest gain experienced by the lowest quintile. Between 1997 and 1999 the poorest 20% of Nova Scotians saw their real disposable income fall from \$10,047 to \$9,404 and then increase to \$10,604 by 2001. At the same time the richest 20% of Nova Scotians (5th quintile) saw their real disposable incomes increase by 10.6% (or \$7,866) between 1997 and 2001. The middle three quintiles had increases in disposable income of between 9.7% and 10%.¹¹⁵

Interestingly, the stagnation or decline in real incomes in the early to mid-1990s and the growing gap between rich and poor occurred despite increases in the GDP, which challenges the widely held assumption that economic growth necessarily benefits the poor. Economic commentators often assert that "a rising tide lifts all boats." However the actual data indicate that the robust economic growth of the 1990s benefited primarily the richest Canadians, and that it was primarily the gains of the wealthy that raised the "average" income of Canadians.

In addition to contributing to declining real incomes and low wages for many Canadians, the polarization of hours in Canada has therefore also contributed to the growing inequality in weekly earnings. As noted earlier, the standard workweek has been shrinking while the proportion of workers working long hours and short hours increased, particularly between 1976 and 1996. Although there has been some reversal of this trend in recent years, the proportions of long-hours and short-hours workers in 2001 were still considerably greater than they were 25 years ago, even if down somewhat from their mid-1990s peaks.

Health Costs Associated with Poverty

Poverty is one of the best predictors of ill health. Low income Canadians are more likely to have poor health and die earlier than other Canadians.¹¹⁶ Socio-economic status has been identified as

¹¹⁴ Statistics Canada. 2003e. *Income Trends in Canada, 1980-2001*. Catalogue no. 13F0022XCB. Minister of Industry. Ottawa. p. 74. Incomes cited are not adjusted for family size.

¹¹⁵ Idem.

¹¹⁶ Colman, Ronald. 2002a. *The Cost of Chronic Disease in Nova Scotia*. GPI Atlantic. Halifax. p. 53. Original references: Health Canada. 1999. *Toward a Healthy Future: Second Report on the Health of Canadians*. Ottawa, p. 31; for a summary of similar data in the U.S., see Blumenthal, Susan (U.S. Assistant Surgeon-General), and Jessica Kagen (U.S. Department of Health and Human Services). 2002. "The Effects of Socioeconomic Status on Health in Rural and Urban America." *Journal of the American Medical Association*. 287, p. 109.

a precursor of cancer, cardiovascular disease, arthritis and musculoskeletal disorders, diabetes mellitus, dental diseases, drug dependence and abuse, and infant mortality and morbidity.¹¹⁷

Job insecurity, low wage work, and unemployment can and do lead to low income and poverty. As noted above, the gap between rich and poor increased in Canada through the 1990s, and many of the poor saw their indebtedness increase and their real incomes decline further.

Poverty and low income result in direct social costs in the form of transfer payments and social assistance, including subsidized housing, employment insurance, and child benefits to individuals and families in need.

But there are many health costs associated with low income and poverty that may not be as obvious. For example, studies have shown that people with low incomes are more likely to be hospitalized and use more physician services than those with higher incomes.

A growing body of evidence indicates that income *distribution* is one of the most important determinants of population health. After reviewing the evidence, the editor of the *British Medical Journal* concluded:

*"What matters in determining mortality and health in a society is less the overall wealth of the society and more how evenly wealth is distributed. The more evenly wealth is distributed, the better the health of that society."*¹¹⁸

If growing inequality is bad for health then the trends of the 1990s are cause for concern. The evidence demonstrates that alleviating poverty and reducing inequality by closing the gap between rich and poor would bring substantial savings to the health care system.

Poverty is not an independent variable, but has causes that can often be found in employment characteristics. Thus, unemployment, underemployment, and non-standard work – characterized by poor pay, tenuous stability, frequent bouts of unemployment, and a polarization of work hours – contribute to both income inequality and poverty, and thus to adverse health outcomes.

Costs of Unemployment

The following is a summary of some of the economic and social costs of unemployment for Nova Scotia in 2001. In the estimates that follow, 2001 official (9.7%) and supplementary (14%) unemployment figures for the province are used. For details on the methodologies used to calculate the costs please refer to Chapter 9 of the report.

¹¹⁷ Colman, 2002a. op. cit., p. 53. Original reference: Almer, Robert, and Donald Eddins. 1987. "Cross-Sectional Analysis: Precursors of Premature Death in the United States." In *Closing the Gap: The Burden of Unnecessary Illness*. Amler, Robert, and Bruce Hull (eds). Oxford University Press. New York and Oxford. Table 1, p. 183.

¹¹⁸ Colman, 2002a, op. cit., p. 55. Original reference: "Editorial: The Big Idea." *British Medical Journal*. April 20, 1998. p. 985, cited in Health Canada. 1999. *Toward a Healthy Future: Second Report on the Health of Canadians*, Ottawa. p. 39.

Summary of Economic Costs

Maintaining large numbers of unemployed people is expensive. In addition to the obvious direct costs of providing the unemployed with a portion of their lost income through employment insurance benefits and various other social assistance programs intended for those on low income, the unemployed have less income and therefore pay less income tax (if any at all) than those with jobs. They also spend less and therefore generate less sales tax, and smaller revenues for businesses and workers whose livelihood depends on consumer spending. Reduced tax revenues in turn mean less public spending on health, education, transportation and other public goods. In addition, the unemployed represent lost productive potential to both the economy and society, since they are not producing potentially useful goods and services. These productivity losses and other hidden and indirect costs to the economy are substantial.

Assessments of the costs of unemployment demonstrate that unemployment is costly for everyone in society, not just the unemployed. Table ES3 demonstrates that unemployment in Nova Scotia cost the provincial and national economy at least \$4 billion in 2001 in lost output and taxes and in direct payments to the unemployed.

Cost calculations for estimated output losses have been made using both a hypothetical 0% unemployment base rate (full employment) and a 3.5% unemployment base rate.

Table ES3. Summary of Economic Costs of Unemployment, Nova Scotia, (\$2001 million).

Losses	Estimated Economic Costs of Unemployment			
	Based on 9.7% Unemployment Rate (using hypothetical 0% unemployment base rate)	Based on 14% Comprehensive Unemployment Rate (using hypothetical 0% unemployment base rate)	Based on 9.7% Unemployment Rate (using hypothetical 3.5% unemployment base rate)	Based on 14% Unemployment Rate (using hypothetical 3.5% unemployment base rate)
1. Output loss	\$4,900	\$7,100	\$3,100	\$5,300
2. Fiscal costs				
• Employment Insurance	\$525	\$525	\$525	\$525
• Social Assistance	\$251	\$251	\$251	\$251
• Lost Direct Taxes	\$153	\$220	\$108	\$175
• Lost Indirect Taxes	\$3.15	\$4.5	\$2.2	\$3.6
TOTAL	\$5.8 billion	\$8.1 billion	\$4.0 billion	\$6.2 billion
Cost per capita	\$6,153	\$8,592	\$4,243	\$6,577

Notes:

- Some of the data used to derive these calculations were from 1999, while others were from 2000 and 2001. In all cases the most recent data were used. All dollar amounts were converted to \$2001 for consistency, using Statistics Canada Consumer Price Index.
- Some of the costs in Table ES3 are borne by the province and others, such as employment insurance and lost federal income taxes, are borne by the country as a whole.
- Data on social assistance were not included in the calculations for direct/indirect taxes lost due to the unavailability of data. Those on social assistance would pay some taxes and these have not been included in the calculations above.
- Use of hypothetical 3.5% unemployment base rate in keeping with the Canadian Centre for Policy Alternatives' paper on the *Real Cost of Unemployment in Canada*, and assumes that even in a situation of "full employment," there will always be some people between jobs who are on the unemployment rolls. However, the experience of some countries like the Netherlands, which have experienced rates of unemployment below 3%, indicates that the CCPA's 3.5% base unemployment rate may be too high.
- Numbers have been rounded.
- Population figure for N.S. in 2001, used to calculate per capita costs, was 942,691 (N.S. Department of Finance, Statistical Review, 2002).

Summary of Social Costs

The evidence indicates that the unemployed suffer higher rates of a wide range of physical and mental ills than those with jobs, and studies confirm that unemployment is accompanied by specific sets of consequences ranging from distress to increased risks of premature death and suicide.¹¹⁹ The Canadian Public Health Association notes that unemployment "is taking a significant toll on the health of Canadians" and that "the evidence that unemployment kills – particularly the middle-aged – now verges on the irrefutable."¹²⁰

When the loss of work is also accompanied by poverty, the health outcomes may be significantly amplified.¹²¹

In addition to the effects on mind and body, unemployment has also been linked to increased rates of spousal and child abuse, divorce, criminal acts, and suicide. The social costs associated with these many social, psychological, and health problems cannot be calculated precisely or comprehensively, but estimates have been made for health, crime, and family breakdown costs attributable to unemployment based on data indicating higher relative risks for the unemployed. In the context of the total social costs attributable to unemployment, the following are likely to be significant underestimates, since they exclude many intangible costs for which insufficient quantifiable data are available, including social exclusion, loss of identity, and psychological effects on children.

Based on estimates in the literature, the evidence indicates that unemployment may cost Nova Scotia between \$250 million and \$400 million a year in excess disease, crime, and divorce costs (Table ES4). The \$400 million estimate includes costs attributable to discouraged and underemployed workers who are excluded from the official unemployment figures, and also includes a wider range of crime cost estimates. The following is intended for illustrative purposes only.

For more details on the methodologies used to calculate the costs summarized below please refer to Chapter 9 of the report.

¹¹⁹ Canadian Public Health Association (CPHA). 1996. *Discussion Paper. The Health Impact of Unemployment*. CPHA. Ottawa. Available from: <http://www.cpha.ca/english/policy/pstatem/unempl/htm>. Accessed December 29, 2002. p. 1; Kirsh, Sharon. 1983. *Unemployment. Its Impact on Body and Soul*. Canadian Mental Health Association. Toronto. pp. 47-48; Harvey Brenner, cited in Yates, Michael, D. 1994. *Longer Hours, Fewer Jobs. Employment and Unemployment in the United States*. Monthly Review Press. New York. pp. 67-69.

¹²⁰ CPHA, 1996, op. cit., p. 2.

¹²¹ Please refer to section on Inequality in Chapter 8.

Table ES4. Summary of Social Costs associated with Unemployment in Nova Scotia (\$2001).

Social Cost Category	Low End Estimate (9.7% Rate)	Higher End Estimate (14% Rate)
Disease	\$182 million	\$256 million
Family breakdown	\$10 million	\$14 million
Crime**	\$60 million	\$130 million
Human capital losses	Not estimated	Not estimated
TOTAL	\$252 million	\$400 million

** Low end and high end crime cost estimates were derived from the "conservative" (direct cost) and "comprehensive" cost estimates provided in Dodds and Colman (1999), op. cit., as explained in Chapter 9, rather than by including discouraged and underemployed workers in the higher end estimates. In this case, therefore, an unemployment rate of 9.7% was used to derive both the \$60 million and \$130 million estimates.

Notes:

- Numbers have been rounded.
- Human capital includes the education, skills, and health of the population. A deterioration of any of these assets can adversely affect productivity and the ability of the human economy to produce goods and services in the future. The longer one is without work, for instance, the greater the chance that one's skills will deteriorate or, in conventional accounting language, depreciate. While methodological challenges have prevented the assignment of a monetary value to the costs associated with the loss of human capital due to unemployment, it should be emphasized that these costs are likely to be very significant. Therefore the total cost estimates in Table 4 above should be considered underestimates of the true or full social costs of joblessness.
- Due to the use of different sources, 2001 joblessness rates were used in conjunction with 1997 crime data, 1998 divorce data, and 1998 health data. Please see the health, family breakdown, and crime cost sections of Chapter 9 for a detailed explanation of data sources used to calculate costs.

Environmental Costs

As productivity increases, a portion of the gain may be distributed among workers either in the form of increased pay or as increased time off from work.¹²² In the first half of the 20th century, productivity gains were often taken as increased leisure. But in the last four decades, it is generally pay that has gone up which, economists argue, sets off consumption cycles because additional income usually gets spent. Juliet Schor has described the tendency to purchase higher consumption levels with long work hours as a "work-and-spend" cycle. When real wages stagnate or decline as they did for most Canadians in the 1990s, and living standards need to be maintained, working longer hours is the only way to make the same amount of money. In other words, increased work effort has allowed families to maintain their standard of living.

It is very difficult to derive monetary estimates for the environmental costs of economic growth and increased consumption, let alone to estimate the environmental costs of long work hours. But this does not mean that the costs are negligible, as higher levels of consumption produce additional strains on limited natural resources and on the earth's waste assimilation capacity.

¹²² In Part 3 of this report, we examine the argument that increases in productivity may result from decreases in hours of work.

Anders Hayden argues that a fundamental shift in thinking and attitude, which he sums up as "working less, consuming less, and living more," may be required to overcome the work-and-spend cycle that Schor describes.¹²³ He calls this shift in thinking the "ecological promise of work-time reduction."

Commuting costs are described in the report as one example of the environmental costs of paid work. A reduction in work hours, such as a shift to a four-day, 32-hour workweek, would correspondingly reduce these costs.

According to Statistics Canada's General Social Survey (1998), the most common reason for weekday travel was commuting to and from work. Forty-seven per cent of the adult population commuted to work in 1998, and the average amount of time spent on the road was 62 minutes a day (up in all cities since 1986). Most of this travel is concentrated in the rush hours, in the early morning and late afternoon. The average travel time going to and from work in the Halifax area is 49 minutes. In addition, 77% of drivers in Canada were alone in their vehicles on their way to work, up from 69% in 1986.¹²⁴ According to the latest census data, 37.8% of commuters in Canada commute less than 5 km; 23.1% commute between 5 and 9.9 km; 13.2% commute between 10 and 14.9 km; 8.1% between 15 and 19.9 km; and 17.8% commute 20 km or more. The median commuting distance in Canada in 2001 was 7.2 km, and in Nova Scotia it was 7.8 km.¹²⁵

A 1998 study by *GPI Atlantic* found that telecommuting in Canada cost only 21% of commuting costs when both internal and external costs are considered. The study found that the full cost of commuting in Canada, using a small car, was \$7,000 in 1998. This included internal costs such as vehicle ownership and operation, commuting time, user-paid parking costs, and non-reimbursed accident costs, which amounted to 60% of the total cost. The remainder were external costs such as greenhouse gas and pollutant emissions, taxpayer subsidized accident costs, and land-use impacts.¹²⁶ The report also found that while telecommuting offered a savings

¹²³ To encourage this shift, Hayden argues for ecological tax reform (ETR), which would impose taxes and charges on energy/carbon, primary materials, water, polluting emissions, pesticides, landfill disposal, road use, disposable products, non-returnable containers etc. rather than on labour and income, as at present. ETR also involves the removal of subsidies to ecologically destructive industries. According to proponents of ecological tax reform, instead of taxing "goods" and labour – that is, the things we need, and our productive energy – we should be taxing "bads," such as waste and pollution. See Hayden, 1999, op. cit., p. 19. Since the burden of such new taxes would fall partly on those at the bottom of the income scale, advocates of ETR argue that income taxes would have to be correspondingly reduced for low-income groups, or the new taxes offset with income supports for the poor. Indeed income tax reductions are seen as an essential concomitant of any ecological tax reform, not only to ensure that ETR does not increase social inequities, but also to ensure that the new measures are "revenue-neutral." See Rees, William E. 1995. "More Jobs, Less Damage. A Framework for Sustainability, Growth and Employment." *Alternatives Magazine*. Vol. 21, no. 4. Waterloo. p. 30.

¹²⁴ Clark, Warren. 2000. "Traffic Report: Weekday Commuting Patterns." *Canadian Social Trends*. Spring. Catalogue no. 11-008. Statistics Canada. Minister of Industry. Ottawa.

¹²⁵ Statistics Canada. 2003d. *Commuting Distance, 2001 Census*. Available from <http://www12.statcan.ca/english/census01/products/>. Accessed November 25, 2003.

¹²⁶ Colman, Ronald. 1998a. *Costs of Commuting and Telecommuting in Nova Scotia*. Prepared for the N.S. Department of Transportation. GPI Atlantic. Halifax. The number of commuting km is based on N.S. averages. From Statistics Canada. *Households and the Environment, 1994*. Catalogue no. 11-526. Operating and ownership costs based on Canadian averages. From Canadian Automobile Association. 1998. *Driving Costs*. Externalities from Litman, Todd. 1997. *Transportation Cost Analysis*. Victoria Transport Policy Institute.

of 80% of these costs on those days when there was no vehicle commute, it was not cost-free. Land-use impacts from telecommuting, for example, are assessed as equal to those from automobile use, since telecommuting is as likely to encourage urban sprawl as automobile dependency.¹²⁷

Due to time and resource limitations, an up-to-date full-cost accounting analysis of commuter costs, and the savings that could be achieved with flexible work schedules, shorter workweeks, and telecommuting in Nova Scotia, could not be undertaken for this report.¹²⁸

3. THE FUTURE OF WORK

"If labour productivity continued to rise at a normal rate, and the resulting gains went exclusively towards increased free time rather than increased incomes, it would take only a few short decades to cut the work hours of the 'consumer class' of the North in half."

– Anders Hayden¹²⁹

If some of the work trends described in Part 1 of this report persist, the ramifications do not bode well for society as a whole. The likely result will be an ever increasing number of marginalized workers, high rates of poverty, longer stints of unemployment, and a further increase in the direct and indirect costs associated with illness, stress, absenteeism, low productivity, crime, family breakdown, premature death, and ecological decline. While large numbers of Canadians cannot get the hours they need to make ends meet, the numbers of people working long hours may also continue to increase, and their families, health, and communities will suffer. Free time will continue to shrink, and we will become increasingly habituated to high rates of time stress, struggling ever more intensely to juggle domestic and work schedules, and to balance work, family, and life responsibilities. Heightened job insecurity and time pressure will result in health problems and a reduced sense of wellbeing, and it will impair our overall quality of life. The growing gap between skilled and unskilled, and between those working long hours on the one hand and the unemployed and underemployed on the other, will cause social inequities to grow and correspondingly threaten social cohesion. This prognosis is not theoretical, as these trends have already been well documented in North America in the 1990s.

By contrast, changing the nature of work and redistributing work hours can potentially reduce unemployment and also improve the living and working conditions and health of Canadians. Several western European countries have already demonstrated practical, alternative ways to organize work that hold promise for North America.

¹²⁷ Idem.

¹²⁸ With flexible work schedules, people could travel to and from work at times other than rush hour, thus subtracting time from their commute. One type of flexible work schedule is called "time-shifting," where workers can check their emails from home, for example, and then travel to work in off-peak periods. GPI Atlantic's *Nova Scotia GPI Transportation Accounts*, scheduled for release at the end of 2004, will provide further details on the full costs of transportation, including environmental externalities.

¹²⁹ Hayden, 1999, op. cit., p. 42.

Alternative Work Arrangements

Reducing and redistributing work hours can potentially avoid costs at both ends of the polarization spectrum. Those who are overworked or "over-employed" can reduce their work hours and their work stress, and thereby increase their free time, and improve their health and work-life balance. At the same time, the underemployed can take on more of the freed-up hours, and jobs can be created for the jobless, thereby reducing the well-documented health, justice, and family breakdown costs of unemployment and job insecurity.

There are alternative work arrangements that have been tried and tested, which can help reduce excess work hours, narrow the income gap, avoid many of the costs described, increase labour productivity and free time, and improve work-life balance and the overall quality of life. These include: work sharing, job sharing, compressed workweeks, a 4-day workweek, overtime reduction, flexitime, telecommuting, phased retirement, sabbaticals, unpaid leaves, and increased vacation time. These alternative work arrangements are all discussed in some detail in Chapter 13 of the report along with a discussion of the benefits and obstacles associated with worktime reduction from the perspective of employers and employees. Specific examples are also provided of circumstances where these new arrangements have been implemented successfully.

There is no one simple solution to the labour market and social challenges that Canada and Nova Scotia currently face. GPI Atlantic recognizes that any solution to a complex problem will also be complex, and the focus on work hours in this report does not imply that any single worktime reduction scheme or any single method of redistributing hours will be a panacea. However, a substantial body of evidence demonstrates that a combination of the work reduction models and policy options outlined in Part 3 of this report, if skillfully implemented in conjunction with other social policies, can contribute markedly to a more equitable society and to a better quality of life for its citizens. In particular, the report demonstrates that there are many *voluntary* worktime reduction options available that can potentially benefit employers, employees, and government alike.

Less Work... More Jobs

According to University of Toronto labour economist, Frank Reid, there are three key elements necessary for worktime reduction to create new jobs. These are:

- A large reduction in worktime – by 10%-20% (i.e. equivalent to a half-day or full day each week). Ideally, this magnitude of work reduction would be achieved by the implementation of a wide range of work reduction options that can be voluntarily chosen by employees. The wider the range of options, the higher the rate of voluntary take-up by employees will likely be. While a 10-20% reduction in worktime may seem large, it would do no more than bring North American work hours more closely into line with average hours currently worked in Western Europe.
- The reduction affects many workers at once.

- A strong commitment to the restriction of overtime use.¹³⁰

Ample evidence now indicates that a reduction in work hours is accompanied by an increase in *hourly* production and output.¹³¹ This is called a productivity *offset* and is important when it comes to the job creation potential of reduced hours. In 1994 the Federal Advisory Group on Working Time and the Distribution of Work concluded from a review of existing evidence that a 10% reduction in working time would produce a 5% increase in productivity (output per hour).¹³² For example, if an employer were to cut work hours by four hours per week (10% of a 40 hour workweek), it would only cost the employer the equivalent of a loss of two hours, because of the increased productivity associated with the reduced worktime. The improved productivity results largely from increased efficiency, reduced absenteeism, and a decline in errors and accidents due to worker fatigue. Because of this productivity gain, an employer who reduced the workweek by four hours may only look for new workers to replace two hours of the lost time (not four), thus cutting the job creation potential indicated by the freed-up hours in half.¹³³

There are also a number of "offsetting" factors that may lower the employment gains from reduced overtime. These are described in detail in Chapter 14 of the report. Assuming all the offsets exist at the same time, it can similarly be estimated that together they would reduce expected employment gains from overtime reduction or elimination by about 50%. Despite these potential offsets and productivity gains, it is not unusual for the job creation potential from reduced worktime to be calculated based on the assumption that one work-hour freed produces one work-hour created for a new employee. In assessing the job creation potential of worktime reduction for Nova Scotia in this report, both the simple arithmetic and productivity-offset methods are used to demonstrate the difference in results, with the report's own conclusions based on the latter (and more conservative) method.

4. JOB CREATION POTENTIAL IN NOVA SCOTIA

"Research shows that, under the right circumstances, a major reduction in working time could result in a meaningful decrease in unemployment and a significant redistribution of jobs."

– Advisory Group on Working Time and the Distribution of Work¹³⁴

¹³⁰ These three factors necessary for worktime reduction to create new hires are from labour economist Frank Reid. Cited in O'Hara, Bruce. 2000. *The Case for Shorter Work Time*. Available from <http://www.vcn.bc.ca/timework/share.htm>. Accessed November 17, 2002.

¹³¹ According to Anders Hayden, only in rare cases would total production actually increase. Thus it is important to distinguish here between hourly productivity increases on the one hand and total production on the other. From Hayden, Anders. Author of *Sharing the Work, Sparing the Planet*. Reviewer comments. August 25, 2003.

¹³² The evidence included both consultations with representatives of European countries that had implemented work reduction schemes and discussions with Canadian firms that had experimented with shorter workweeks.

¹³³ Advisory Group on Working Time and the Distribution of Work (AGWTDW), 1994, op. cit., p. 75.

¹³⁴ AGWTDW, 1994, op. cit., p. 3.

New Jobs from Overtime Reduction

Reducing overtime hours may provide a key source of potential jobs for the unemployed and underemployed. A simple arithmetic calculation indicates that the 21 million overtime hours clocked in Canada in one week in 2001 are the equivalent of 525,000 full-time jobs. In Nova Scotia the 643,000 overtime hours would theoretically translate into more than 16,000 new jobs, assuming a 40-hour workweek. If every one of these jobs were filled from the ranks of the officially unemployed, it would reduce unemployment in Nova Scotia by 35%.¹³⁵

If we were to consider only paid overtime hours, the full-time job equivalents would be fewer. In Canada in 2001 there were 9 million hours of paid overtime worked per week, the equivalent of 225,000 full-time jobs. This could theoretically have reduced the ranks of the unemployed in Canada by 19%, and brought the unemployment rate down from 7.2% to 5.8%. In Nova Scotia, an average of 241,000 hours of paid overtime were worked every week, equal to more than 6,000 full-time jobs. If these jobs had been filled by workers previously unemployed, this would have reduced the ranks of the unemployed by 13% and brought the unemployment rate down from nearly 10% to 8.4%.¹³⁶

If overtime hours had been eliminated in Nova Scotia's goods-producing sector in 2001 and replaced by new jobs, roughly 3,300 additional jobs could have been created – an employment increase of nearly 5% in that sector, with the majority of new jobs being created in manufacturing (2,060) and construction (633). In proportion to the size of their workforces, job creation among goods-producing industries was highest in utilities (7.4%) and manufacturing (5.4%).

Similarly, the elimination of all overtime hours in the service sector could have resulted in an additional 14,300 new jobs overall – with the highest number of new jobs in education (3,500), health care and social services (1,658), and public administration (1,555). New jobs in health would have represented a 13% increase in employment in that sector. The job increases in the professional field (7.9%) and public administration (6.7%) would also be relatively high. Among all industries, educators clocked the most overtime hours.

Therefore, if all paid and unpaid overtime had been eliminated across the board for all industries in 2001, and if all new jobs created were based on the average straight hours worked per employee in each industry, Nova Scotia could have been 17,573 full-time jobs richer – an increase in employment of 5.2%.¹³⁷ If offsets that reflect more realistic industry responses to

¹³⁵ That is, using the official number of unemployed in Nova Scotia in 2001, which does not include the so-called "hidden" unemployed, who include discouraged workers and the underemployed portion of involuntary part-time work.

¹³⁶ New theoretical unemployment rate for N.S. calculated by dividing the new estimated number of unemployed (39,600) by the total labour force in 2001 (468,900). Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

¹³⁷ The earlier calculation of 16,000 new jobs from overtime elimination was based on a 40-hour week. The industry-based calculation above uses the average straight hours worked per week per employee. For instance, the average workweek of someone employed in the forestry industry is 50.3 hours, while someone employed in accomodation and food services works 33.3 hours a week on average. Industry-specific data for average workweeks

overtime reduction efforts reduced this job creation potential by 50%, there would have been 8,787 new jobs created. In actual fact, the conversion rate would be considerably less, because of the inclusion of unpaid overtime hours, which employers have no incentive to convert to paid work, and because of the difficulties of matching the skills of overtime workers with those of the unemployed. Therefore, these calculations should not be considered as descriptive of actual jobs that could be created given current economic realities, but a theoretical exercise designed to illustrate the hidden costs of overtime in terms of lost potential jobs and consequent taxpayer-funded employment insurance and social security costs. Any actual attempt to convert overtime hours to new jobs would have to be accompanied by a range of legislative and program initiatives – including incentives to employers who hired previously unemployed workers – along with carefully crafted training programs.

In Canada, between 1997 and 2001, 238,000 jobs were created in the manufacturing sector.¹³⁸ During this same time period, 28 million *additional* overtime hours (532,700 overtime hours per week) were worked in the manufacturing sector in 2001 over and above the overtime hours worked in 1997. If just half of these additional overtime hours had been converted to new jobs, this increase in overtime alone could have yielded about 6,700 full-time equivalent jobs.¹³⁹ In Nova Scotia during the same time period, 4,600 jobs were created in manufacturing and 1.1 million *additional* overtime hours were worked in the sector (20,930 overtime hours per week) – which could have yielded about 260 new jobs based on a 50% conversion rate.¹⁴⁰

Furthermore, 4.3 million overtime hours were worked each week in Canada in 2001 in the manufacturing sector alone.¹⁴¹ In Nova Scotia in the same year, 84,600 overtime hours per week were worked in manufacturing. If just 50% of these overtime hours had been converted to new jobs, an additional 53,700 jobs would have been created in Canadian manufacturing in 2001 and an additional 1,060 jobs would have been created in manufacturing in Nova Scotia.¹⁴²

were used to calculate the potential number of new jobs created by the elimination of overtime in those industries, which accounts for the difference in these two job creation estimates.

¹³⁸ Statistics Canada began collecting data on overtime in 1997. Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

¹³⁹ The full-time equivalent of the aggregate change in overtime hours in Canada is calculated by taking the difference between the average weekly overtime hours worked by overtime workers in 1997 and 2001, which gives 532,700 hours. This is then divided by 40, representing the usual length of a full-time workweek. Assuming a 50% conversion into new jobs, the final figure is 6,659. If full-time *annual* hours are used for this calculation, (1,920/year counting two weeks vacation plus statutory holidays), then 28 million additional overtime hours could theoretically yield about 14,500 new jobs, or more than 7,000 jobs if just 50% of the additional overtime hours had been converted to new jobs. Data from Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

¹⁴⁰ Idem. Using full-time annual hours, the additional overtime hours could have created about 523 new jobs in Nova Scotia, or about 260 jobs if just 50% of the additional overtime hours had been converted to full-time job equivalents.

¹⁴¹ The previous calculations were based on *additional* overtime hours worked in 2001 compared with 1997.

¹⁴² Final figures are assuming a 50% conversion into new jobs. Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

New Jobs from Hours Reduction

In order to calculate the job creation potential and other economic impacts of a 10% reduction in hours worked in Canada in 1994, the Federal Advisory Group on Working Time and the Distribution of Work commissioned Infrometrica Limited, a computer-modelling economic analysis and forecasting firm, to apply its Canadian econometric model to the issue. Infrometrica found that reducing worktime by 10% could result in a "substantial redistribution of jobs" in Canada, accounting for resultant hourly productivity increases and the conversion of 50% of the freed-up hours to new jobs.

Between 1995 and 2004, the unemployment rate was predicted to drop by four percentage points due to the reduction in work hours. GDP would be little affected because neither more nor less was being produced as a result of the change in work arrangements. In other words, the size of the "pie" would not change much overall. Real disposable income would decrease by 0.7% after five years and by 1.4% after 10 years, due to the shorter work hours, but this would be offset by substantial increases in leisure time for those who were working. Infrometrica's econometric model found a 2.6% expansion of leisure time at the end of a projected five-year phase-in of a 10% reduction in work hours, and a 2.7% expansion after 10 years.

The situation of the unemployed would also improve because many of them would find work.¹⁴³ In addition, according to the Infrometrica model, government expenditures on social assistance and employment insurance would decrease, the tax base would widen, and corporate profits would rise slightly, largely due to predicted hourly productivity increases.

In fact, the fairly substantial predicted increase in government revenues would allow the possibility of a commensurate cut in taxes that would compensate workers for the slight decline in real disposable income. This could produce a revenue-neutral solution for government that would minimize any adverse impact on employee incomes. As well, part of the predicted increase in real corporate profits could also be returned to employees, thus further ameliorating the slight reduction in real disposable income.

One of the key conclusions reached by the Federal Advisory Group based on its analysis of the modelling exercise, was that "it is possible to reduce the unemployment rate significantly without affecting Canada's inflation rate or international competitiveness."¹⁴⁴

For the purposes of this report we have used Infrometrica's background study for the Federal Advisory Group in 1994 as a template for estimating the impact of a 10% reduction in worktime in Nova Scotia. As specific computer modelling was not done for Nova Scotia, we are limited here to estimating changes in the unemployment rate.¹⁴⁵

¹⁴³ "Free" time would decrease substantially for those who found work after being unemployed. But for them, presumably, this change would be welcomed. Indeed, it is debatable whether the free time they previously had while unemployed can even be termed "leisure" time, since it was likely unwanted.

¹⁴⁴ Advisory Group on Working Time and the Distribution of Work, 1994, op. cit., p. 76.

¹⁴⁵ It was suggested to GPI Atlantic that, in the absence of computer modelling, we should concentrate on the labour force dimensions of a reduction in worktime. From McCracken, Mike. Infrometrica Limited. Personal communication. June 29, 2003.

As previously noted, a 10% reduction in working time for those who are currently employed would likely result in an increase in hourly labour productivity of 5%. Because of this productivity offset, only about half of the reduction in work hours would result in new jobs.

Thus, in 2001, Nova Scotians worked a total of 15.6 million hours per week. Theoretically, a 10% reduction in work hours would have amounted to almost 1.6 million freed up hours, available both for new hires from among the unemployed and for redistribution among the underemployed. This reduction in work hours can be achieved in a number of ways, many of them discussed in Chapter 13. These include shorter workdays, shorter workweeks, sabbaticals, longer vacations, phased-in retirement, improvement in the conditions of part-time work, and other methods that could be tailored to the particular needs of different sets of employees.

This reduction in hours is equivalent to roughly 38,740 full-time jobs, or about 85% of the 45,600 officially unemployed that year.¹⁴⁶ Due to the offsetting effect of productivity increases, only half of the hours reduction would have resulted in new jobs. Therefore, about 19,370 new jobs could have been created. Assuming that all the new jobs were filled from the ranks of the unemployed, this job creation would have brought the unemployment rate down from 9.7% to 5.6%.¹⁴⁷ It should be noted that an unemployment decline of this magnitude is not inconceivable and was actually achieved in the Netherlands. In that country, a long-term drop in unemployment from 12.2% to 2.9% was partly attributed to the country's deliberate redistribution of work hours through promotion of high-quality part-time work.

However, there is a wide range of intervening variables that complicate the equation between work hours reduction and job creation. For example, the size of businesses in Nova Scotia presents a special challenge in translating shorter work time into job creation potential, as the conversion is easier in larger enterprises. Nearly three out of four businesses in this province are small, employing fewer than five people. Nine out of 10 businesses in the province have fewer than 20 employees.¹⁴⁸

But this does not mean that most employees work in small firms. In fact, 60.5% of all Nova Scotian employees in 2001 worked in firms with more than 20 employees. Nearly 30% of all Nova Scotian employees worked in firms with more than 100 employees in 2001.¹⁴⁹

Therefore, while small businesses are clearly an important part of the business landscape in this province, the greater challenges they may face in translating work-hours reductions into new jobs do not constitute an impediment to instituting work-hours reductions for very substantial portions of the provincial labour force. In fact, a five-year phased-in work-reduction plan, such as that recommended by the Federal Advisory Group on Working Time and the Distribution of Work,

¹⁴⁶ Full-time jobs are calculated by dividing the total available hours by the average usual workweek for full-time work in Nova Scotia in 2001, which was 41.3 hours. Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

¹⁴⁷ The new theoretical unemployment rate is calculated by dividing the new number of unemployed (26,230) by the labour force in 2001 (468,900).

¹⁴⁸ Hachey, Leanne. Policy Analyst. Canadian Federation of Independent Business. Personal communication. May 30, 2003.

¹⁴⁹ Statistics Canada. 2002. *Labour Force Historical Review 2001*. Catalogue no. 71F0004XCB. Minister of Industry. Ottawa.

could begin with larger firms and gradually embrace smaller firms over time as the new work arrangements gradually took hold. France also instituted its 35-hour workweek in phases according to firm size.

These and other challenges facing Nova Scotia are discussed in Chapter 15 of the report, which outlines *Policy Recommendations* based on the evidence presented and on Nova Scotia conditions. Innovative work-reduction and job creation policies in this province could also potentially provide a model for the rest of the country and beyond.