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- PART-TIME BY CHOICE
- INCOME INEQUALITY WITHIN PROVINCES

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Highlights

In this issue

Part-time by choice ... p. 5

- In 1999, almost one in five workers (2.7 million) spent less than 30 hours per week at his or her main job. Voluntary part-time workers—those who chose the work arrangement and reported not wanting full-time work—numbered 2 million, about 14% of total employment and 73% of part-time employment.

- A full 80% of voluntary part-time workers were young men (15 to 24) (18%) or women under 55 (62%). Only 43% of full-time workers fell into these categories. While almost all youths reported school attendance, and all older workers (55 and over), preference, as the main reason for working part time, those 25 to 54 gave a variety of reasons. Women cited preference (45%) and family responsibilities (44%), while men cited preference (44%) and school attendance (26%).

- In 1999, some 93% of full-time workers were in a permanent job, compared with 86% of voluntary and 74% of involuntary part-time workers. Similarly, average hourly earnings were highest for full-time workers aged 25 and over ($16.00), second highest for voluntary part-time workers ($14.50), and lowest for involuntary part-time workers ($12.00).

- Roughly 4 in 10 full-time workers said that work caused them stress, compared with just one in 10 part-time workers. Also, more part-time than full-time workers were satisfied with the balance between job and home: 83% versus 72%, respectively.

- The bulk of the increase in part-time employment resulted from growth in part-time work across all industries. Almost one-third came from a shift toward the service sector, traditionally an area high in part-time work.

Income inequality within provinces ... p. 13

- In 1998, for every dollar of market income (income before taxes and government transfers) for the 20% of economic families with the lowest incomes, the 20% with the highest incomes had, on average, $14.50. When the comparison is based on after-tax income, the inequality ratio was only $5.40.

- At both the national and provincial level, the inequality ratio was highest for market income and lowest for after-tax income for every year between 1980 and 1998.

- In 1998, Prince Edward Island had the smallest inequality ratio for after-tax income, while Alberta had the largest.

- From 1980 to 1998, the gap between the province with the lowest ratio for total income (income before taxes but after government transfers) and the one with the highest grew from 1.40 to 2.20, while the gap for after-tax income edged up from 1.10 to 1.90.

- Inequalities in market income tended to increase. The other two income measures reveal a similar tendency—though on a smaller scale—for the majority of provinces.

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Part-time by choice

Katherine Marshall

Over the past three decades part-time employment has grown steadily. With almost one in five workers putting in less than 30 hours per week at his or her main job, part-time labour has become a major form of non-standard work. As a consequence, ongoing issues surrounding part-time work, such as job quality, security, pay, and benefits, have become more important than ever.

Although the part-time employment rate decreased slightly in the late 1990s, the proportion of part-timers who willingly engaged in such work and did not want full-time work, increased. Consequently, the proportion of involuntary part-time workers—those who would prefer full-time work—has decreased (Akyeampong, forthcoming). This study looks at those who voluntarily work part time, as well as their reasons for doing so, their levels of work-related stress, and their job characteristics (see *Data sources and definitions)*. Comparisons are made with full-time and involuntary part-time workers. The article begins with an overview of the growth in part-time work.

An upward trend

The percentage of workers employed part time grew from 12.6% (1.2 million) in 1976 to 18.5% (2.7 million) in 1999 (Chart A). This trend is not unique to Canada, as part-time work has increased in most industrialized countries (see *International comparisons)*. One-third of the net increase in the part-time employment rate since the late 1980s can be attributed to employment increases in industries with already high rates of part-time work (see *Decomposing changes in part-time employment)*. However, the more important factor has been an overall trend toward increased part-time work across all industries.

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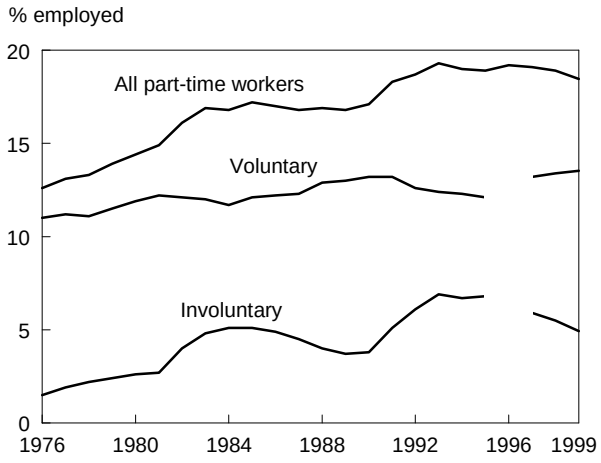
Chart A: Throughout the 1990s, almost one in five worked part time.



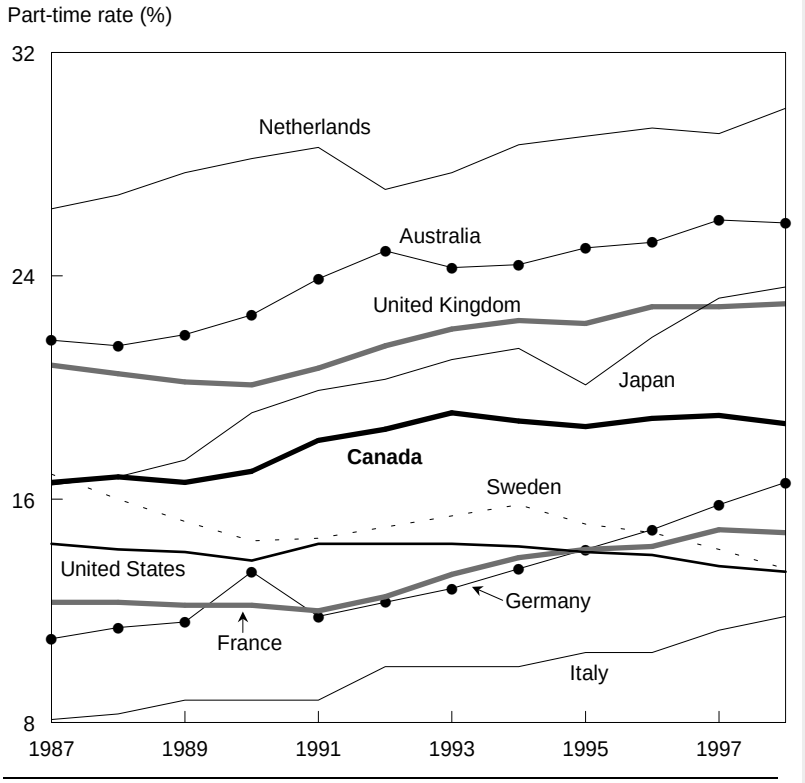
Source: Labour Force Survey
Note: Prior to 1996, the voluntary and involuntary part-time rates were based on the old definition of part-time workers (see Data sources and definitions*).*

A number of well-known, sometimes interrelated, factors are thought to be behind the widespread increase in the use of part-time work. One is the development of a more globally competitive service-based economy. Since the evolving economy has brought technological change to the workplace, extended operating and production schedules, and increased fluctuations in business activities, firms have been inclined to use more part-time labour (Tilly, 1991). Employers have embraced a more contingent, flexible workforce for cost-saving reasons as well: "In a climate of increased competition, employers sought to reduce their labour costs and increase their workforce flexibility by decreasing their core full-time, permanent workers and hiring more workers on a part-time basis" (Schellenberg, 1997).

International comparisons

Given the growing importance of part-time work, the Organisation for Economic Co-operation and Development (OECD) has recently begun to provide international comparisons. It defines part-time workers as persons who usually work less than 30 hours per week in their main job (OECD, 1997). (This definition is similar to Canada's.)

Accordingly, from 1987 to 1998 part-time employment increased in 8 of 10 selected OECD countries. Only 2 countries showed a decrease: the United States (down from 14.4% to 13.4%) and Sweden (down from 16.9% to 13.5%). Part-time employment rates were particularly high in Australia, Japan, the Netherlands and the United Kingdom, where approximately one in four workers put in less than 30 hours per week in 1998. Relative to other OECD countries, at just under 20%, Canada's part-time employment rate was "middle-of-the-road."



Source: Organisation for Economic Co-operation and Development

Some of the increase in part-time employment may also have come from the supply side, as more workers are looking for flexibility and ways to balance their home and work lives. Indeed, the percentage of part-timers who have adopted this work arrangement voluntarily has recently increased, reaching 73% in 1999, up from 69% in 1997.[1]

Finally, demographic change can also contribute, as proportional increases or decreases in populations with high part-time rates, such as youths, can affect overall part-time rates. Analysis of this factor actually shows a dampening effect on the part-time work rate (see *Decomposing changes in part-time employment*), offsetting the effects of industrial employment shifts and the overall trend toward part-time work.

Youths and women predominate in voluntary part-time work

The number of voluntary part-time workers reached 2 million in 1999, representing 14% of all employment and 73% of all part-time employment (Table 1). These workers were most often aged 15 to 24 (40%) or women between 25 and 54 (40%). Respective figures for full-time workers were 10% and 33%. Youths and women aged 25 to 54 also made up the majority of involuntary part-time workers (73%). However, compared with their voluntary counterparts, involuntary part-time workers were more likely to be core-age adults (25 to 54)—65% versus 46%—attesting to their greater preference for full-time work.

The skewed demographic distribution of voluntary part-time workers is better understood when education and family characteristics are examined. For example, 81% of young voluntary part-time workers were attending school, compared with only 8% of youths working full time and 11% of youths working involuntarily at part-time jobs. This finding accords with the main reason given by both young men and women for working part time: roughly 90% of youths did so in order to attend school.

Table 1: Employment status by selected characteristics

	Total employed	Full-time	Part-time		
			Total	Volun-tary	Invol-untary
			'000		
Total	**14,531**	**11,849**	**2,682**	**1,965**	**717**
			%		
Both sexes	**100**	**82**	**18**	**14**	**5**
Men	100	90	10	7	3
Women	100	72	28	21	7
Characteristics					
Men	54	60	30	29	34
15 to 24	8	6	16	18	11
25 to 54	40	47	10	6	20
55 and over	6	7	5	5	3
Women	46	40	70	71	66
15 to 24	7	4	21	22	16
25 to 54	35	33	42	40	46
55 and over	4	3	7	9	4
Attends school*					
15 to 24	34	8	67	81	11
25 and over	3	2	6	7	3
Education					
15 to 24					
High school or less†	73	65	84	86	74
Postsecondary diploma	21	28	13	11	21
University degree	6	7	3	3	5
25 and over					
High school or less†	43	43	45	44	48
Postsecondary diploma	35	35	35	34	37
University degree	22	22	20	22	16
With children under 16 at home					
25 to 54**					
Men	43	44	30	27	32
Women	44	40	56	61	45

Source: Labour Force Survey, 1999
* *Both full- and part-time attendance.*
** *Age group most likely to have dependent children.*
† *Includes some postsecondary education.*

Consequently, since so many voluntary part-time workers are still young and attending school, their average level of education is lower than that of full-time or involuntary part-time workers. For example, 86% of voluntary part-time workers aged 15 to 24 in 1999 had a high school education or less, compared with only 65% of full-time workers. However, once people reach age 25 and have completed most of their schooling, full-time and voluntary part-time workers have strikingly similar levels of education—higher than that of most involuntary part-time workers (22% were university graduates, versus 16%).

Roughly 4 out of 10 men and women with full-time jobs, aged 25 to 54, had at least one child under 16 at home. This is in stark contrast to voluntary part-time workers, in whose case 61% of women and only 27% of men had dependent children at home. These differing rates are not surprising, given that 35% of women voluntarily working part time reported doing so in order to care for their children. Only 4% of men gave this reason.

Reasons for choosing part-time over full-time

The Labour Force Survey asks all "voluntary part-time workers" the main reason for not wanting full-time work (see *Data sources and definitions*). The reasons given for choosing part-time work vary substantially by age. In 1999, most youths said school attendance was their main reason for working part time (92% of men and 86% of women), while older workers (aged 55 and over) stated personal preference (87% of men and 85% of women) (Chart B). Older workers choosing to work part time are most likely doing so to ease into retirement. On the other hand, 25-to-54 year-olds tended to report a variety of reasons, which differed by sex. Although personal preference for part-time work was the main reason for both men and women (44% and 45%, respectively), family responsibilities were almost as common a reason for women (44%) and going to school was a strong second for men (26%). Only 6% of women in this group were attending school.

Decomposing changes in part-time employment

The increase in the part-time employment rate can be attributed to shifts in industry or demographic structure and/or to a trend toward part-time labour as a work arrangement. Part-time work may be growing because industries that usually offer this option are growing more, or because all industries are seeing an increase. Or both explanations may be true. Shift-share analysis[2] can isolate each factor and thus determine its contribution to the overall increase in the part-time rate.[3] Some 31% of the increase in part-time employment between 1987 and 1999 can be credited to a shift in employment toward industries with high rates of part-time employment: the service sector. However, most (69%) of the increase in the part-time employment rate can be attributed to an upward trend in part-time work overall. Indeed, all industries except agriculture, and health care and social assistance (both already having high part-time rates), showed an increase in part-time employment between 1987 and 1999.

Demographic shifts over the period had a dampening effect on the part-time employment rate, mainly because of the proportional decrease in the youth population. Had this not been the case, the part-time rate might have increased by as much as 2.6% (instead of 1.7%), owing to the growing trend to part-time work among both men and women (except women 25 to 54).

	Part-time rate		Employment share*		Weighted part-time**		Part-time change 1987-1999		
Factor	1987	1999	1987	1999	1987	1999	Total	Shift†	Trend††
	%				%				
Industry	**16.8**	**18.5**	**1.00**	**1.00**	**16.8**	**18.5**	**1.69*(100%)***	**0.53*(31%)***	**1.17*(69%)***
Agriculture	23.3	21.4	0.04	0.03	0.90	0.61	*-0.29*	*-0.23*	*-0.06*
Other primary	4.0	5.0	0.02	0.02	0.10	0.09	-	*-0.02*	*0.02*
Utilities	1.7	1.6	0.01	0.01	0.02	0.01	-	-	-
Construction	6.9	8.3	0.06	0.05	0.41	0.44	*0.03*	*-0.05*	*0.08*
Manufacturing	3.4	3.7	0.17	0.15	0.56	0.56	-	*-0.05*	*0.05*
Trade	26.1	27.5	0.16	0.15	4.21	4.25	*0.03*	*-0.18*	*0.21*
Transportation and warehousing	9.7	11.6	0.05	0.05	0.50	0.60	*0.09*	*-0.01*	*0.10*
Finance, insurance and real estate	12.5	14.8	0.06	0.06	0.77	0.88	*0.11*	*-0.03*	*0.14*
Professional, scientific and technical	12.2	12.5	0.04	0.06	0.47	0.78	*0.31*	*0.29*	*0.02*
Management and administration	25.4	26.3	0.02	0.03	0.55	0.92	*0.37*	*0.34*	*0.02*
Educational services	19.5	24.1	0.06	0.07	1.25	1.63	*0.38*	*0.08*	*0.30*
Health care and social assistance	27.1	26.5	0.09	0.10	2.52	2.64	*0.11*	*0.17*	*-0.05*
Information, culture and recreation	20.3	22.7	0.04	0.04	0.81	0.98	*0.17*	*0.07*	*0.10*
Accommodation and food services	35.4	38.4	0.06	0.06	2.01	2.45	*0.43*	*0.25*	*0.18*
Other services	23.7	24.4	0.05	0.05	1.21	1.21	-	*-0.04*	*0.04*
Public administration	7.3	7.7	0.06	0.05	0.46	0.41	*-0.05*	*-0.07*	*0.02*
Age and sex	**16.8**	**18.5**	**1.00**	**1.00**	**16.8**	**18.5**	**1.69*(100%)***	**-0.92*(-54%)***	**2.61*(154%)***
Men 15 to 24	28.1	37.6	0.11	0.08	3.06	2.95	*-0.11*	*-0.99*	*0.88*
Men 25 to 54	3.0	4.4	0.39	0.40	1.18	1.78	*0.59*	*0.02*	*0.57*
Men 55 and over	10.6	14.1	0.07	0.06	0.70	0.88	*0.17*	*-0.06*	*0.23*
Women 15 to 24	38.0	52.1	0.10	0.07	3.79	3.82	*0.02*	*-1.19*	*1.22*
Women 25 to 54	23.1	22.2	0.30	0.35	6.84	7.69	*0.85*	*1.14*	*-0.29*
Women 55 and over	33.8	33.9	0.03	0.04	1.18	1.35	*0.17*	*0.16*	-

Source: Labour Force Survey

** Industry or demographic group employment divided by total employment.*

*** Part-time rate multiplied by employment share; represents the contribution of an industry or demographic group to part-time employment.*

† Keeping the part-time rate constant, this represents the change in the part-time rate due to changes in the employment share of individual industries or demographic groups.

†† Keeping the employment share constant, this represents the change in the part-time rate due to changes in the part-time rate of individual industries or demographic groups.

Work stress

The 1998 General Social Survey on Time Use asked respondents a number of questions about their use of time in relation to paid work. Findings show that volume of work (part-time or full-time) goes a long way in explaining the differences in perception of work-related stress. Roughly 4 out of 10 full-time workers (men and women) said that work caused them stress, compared with just one out of 10 part-time workers. Furthermore, one-third of all full-time workers believed themselves to be "workaholics," compared with one-fifth of part-time workers. Women working part time were more likely to make this observation than men (24% versus 13%), and involuntary part-timers more so than voluntary (27% versus 17%). A greater proportion of women working part time were older and thus more likely to be married and have children, factors that tend to increase financial and time-related pressures.

The majority of full-time workers were satisfied with the balance between their job and home life: 74% of men and 70% of women. Not surprisingly, working part time increased the degree of satisfaction, with 91% of men and 80% of women reporting contentment with the balance between home and work.

Perceptions of time use and stress as they relate to work

	Total employed	Full-time	Part-time		
			Total	Voluntary	Involuntary
			%		
Answered YES					
Does work cause you stress?					
Both sexes	36	42	10	8[q]	15[q]
Men	37	41	--	--	--
Women	35	43	13	11[q]	17[q]
Are you a workaholic?					
Both sexes	32	34	20	17	27
Men	33	35	13[q]	10[q]	--
Women	30	33	24	22	27
Are you satisfied with the balance between job and home?					
Both sexes	74	72	83	84	80
Men	76	74	90	91	84
Women	72	70	79	80	79

Source: General Social Survey, 1998

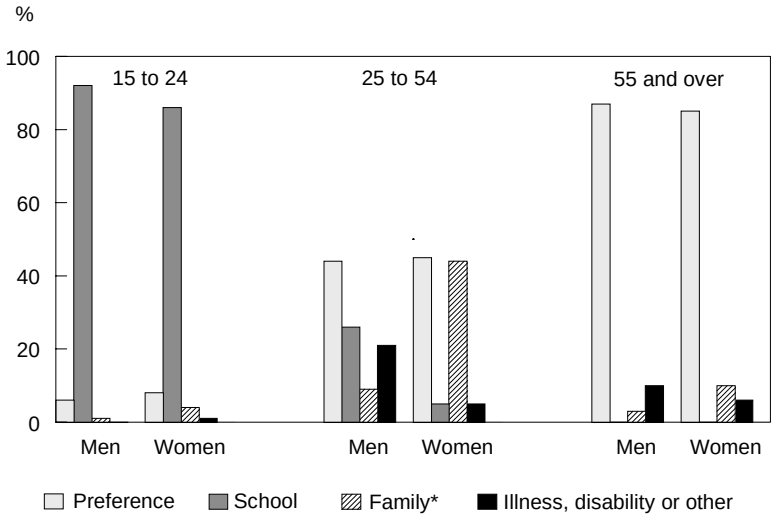
[q] *Estimates of the standard error are relatively high; these figures should be used with caution.*

Job security and earnings: voluntary part-timers in the middle

In terms of holding down more than one job, voluntary part-time workers in 1999 had a rate closer to that of full-time workers (8% versus 4%) than to that of involuntary part-time workers (14%) (Table 2). This is a reasonable finding given that the latter would prefer to have full-time work, and multiple jobholding brings them closer to that goal.

Self-employment was much more common among voluntary part-time workers (29% of those 25 and over) than among either full-time (18%) or involuntary part-time workers (20%). The desire to work part time may be one reason

Chart B: Reasons for choosing part-time work vary by age.



Source: Labour Force Survey, 1999

* *Caring for own children and/or elderly relative(s), or other family-related reasons.*

some people move into self-employment, as it allows greater flexibility and control over work hours.

Half of all part-time jobs, both voluntary and involuntary, were in sales and service, compared with only 19% of full-time jobs. (Sales and service positions are often scheduled outside 9-to-5 hours, thus creating a need for more short-hour work schedules.) On the other hand, 11% of full-time employment was found in management occupations, compared with just 3% of part-time work.

Table 2: Employment status by selected job characteristics

	Total employed	Full-time	Part-time		
			Total	Voluntary	Involuntary
			'000		
Total employed	**14,531**	**11,849**	**2,682**	**1,965**	**717**
			%		
Multiple jobholder	5	4	10	8	14
15 to 24	6	5	8	7	14
25 and over	5	4	10	9	14
Self-employed	17	16	20	21	16
15 to 24	6	5	9	9	6
25 and over	19	18	26	29	20
Occupation					
Management	10	11	3	3	2
Business, finance and administration	18	18	17	18	13
Health	5	5	8	7	9
Sales and service	25	19	48	48	50
Trades, transport and equipment operators	14	16	6	4	9
All other groups	28	31	18	20	17
			'000		
Paid workers	**12,068**	**9,918**	**2,150**	**1,547**	**603**
			%		
Unionized*	32	34	23	21	28
15 to 24	13	15	11	10	18
25 and over	35	36	32	31	34
Permanent job	88	91	73	75	69
15 to 24	72	77	65	65	64
25 and over	91	93	82	86	74
Workplace < 20 employees	34	31	48	49	47
15 to 24	47	43	51	51	50
25 and over	35	31	46	47	44
			$		
Average hourly earnings	16.14	17.16	11.44	11.58	11.10
15 to 24	9.29	10.30	7.98	7.83	8.54
25 and over	15.52	16.01	13.74	14.48	11.99

Source: Labour Force Survey, 1999

* *Includes both union members and persons who are not union members, but whose jobs are covered by collective agreements.*

Rates of unionization and job permanence were higher for older than younger workers, as were those for full-time workers. For example, 36% of full-time workers aged 25 and over were in a unionized job, compared with 31% of voluntary and 34% of involuntary part-time workers. Proportions of workers with permanent jobs were more varied: 93% of full-time workers, 86% of voluntary and 74% of involuntary part-time workers. Similarly, average hourly earnings were highest for full-time workers aged 25 and over ($16.01), second highest for voluntary part-time workers ($14.48), and lowest for involuntary part-time workers ($11.99). Not only were job security and wage rates higher for voluntary (compared with involuntary) part-time workers, but work-related stress tended to be lower for this group (see *Work stress*).

Summary

The growth in part-time work has made it an important factor in the workplace. In 1999, almost one in five workers spent less than 30 hours per week at his or her main job. Furthermore, whether out of personal choice or to accommodate personal circumstances, such as the wish to attend school or to care for young children, 73% of part-time workers would rather have been engaged part time than full time. Although voluntary part-time workers fare better than their involuntary counterparts, their wages and job security are still below those of full-time workers.

Data sources and definitions

The **Labour Force Survey (LFS)** is a monthly household survey that collects information on labour market activity from all persons 15 years and over, including questions about the usual and actual weekly hours a person contributes to his or her main, and any other, job.

The core content of the 1998 **General Social Survey (GSS)** was time use. From January to December, roughly 11,000 respondents were asked a number of questions relating to time use. The questionnaire included a time-use diary, a child-care diary for respondents with children under 15 at home, a section on perceptions of time, and one on unpaid help and volunteering. For more information on this cycle of the GSS, contact Manon DeClos at (613) 951-9298.

Labour force statistics from the **Organisation for Economic Co-operation and Development (OECD)** come from its annual questionnaire, and from a number of national sources such as yearbooks. The OECD also uses data from the Statistical Office of the European Union (Eurostat) and the International Labour Office (ILO).

Usual hours: the number of paid hours an employee usually works per week. For the self-employed, it refers to the number of hours usually worked in a typical week, regardless of whether they were paid.

Part-time employment: persons who usually work less than 30 hours per week at their main or only job. Prior to 1996, part-time work was based on the total hours of all jobs. The revised definition increased the total number of part-time workers. The historical data of the LFS have been revised to reflect the current definition. However, the full-time workers who were reclassified to part-time had not been asked the reason for working part time. Therefore, the voluntary and involuntary part-time rates prior to 1996 are based on the old definition of part-time workers.

Voluntary part-time employment: persons who usually work less than 30 hours per week, and who state they do not want to work full time. These workers are then asked the main reason for not wanting full-time work. This could be own illness or disability, caring for own children, caring for elderly relative(s), other personal or family responsibilities, going to school, personal preference, or other.

The label of "voluntary" part-time worker can be ambiguous. Although everyone in this category has made the decision to work part time, less than half cite personal preference for this arrangement. In most cases respondents give personal circumstances, such as care of children or going to school, as the reason for "choosing" to work part time. Some may feel that part-time work is not an ideal arrangement but the only option given their life circumstances, while others may view it as preferable, despite having chosen it for other reasons.

Overall, the "personal preference" category made the largest gain over three years—up from 34% in 1997 to 36% in 1999. The largest increase was among the 25-to-54 age group, up from 42% to 45%. The growth in part-time as a preferred work arrangement is probably the main reason for the overall increase in the voluntary part-time employment rate.

Involuntary part-time employment: persons who usually work less than 30 hours per week but state they would prefer to work full time. These workers are asked the main reason for not having full-time work, and whether or not they have searched for full-time work (Akyeampong, forthcoming).

Notes

1 Prior to 1996, the voluntary and involuntary part-time rates were based on the old definition of part-time workers (see *Data sources and definitions*).

2 In simplified terms, the shift-share technique estimates the increase in the part-time work rate by separately holding each factor constant over the time period. For example, if the employment distribution by industry had remained the same from 1987 to 1999, what would changes to the part-time rate have been, and similarly, if the part-time rate had been constant over the time period, what would the altered employment levels have done to the part-time rate?

3 The two factors, employment share and trend to work part time, are decomposed and expressed in the following formula:

$$m^{t+1} - m^t = \sum_i \left[\frac{\left(s_i^t + s_i^{t+1} \right)}{2} \cdot \left(m_i^{t+1} + m_i^t \right) \right]$$

$$- \sum_i \left[\frac{\left(m_i^t + m_i^{t+1} \right)}{2} \cdot \left(s_i^{t+1} + s_i^t \right) \right]$$

m^t = part-time employment rate for all industries or age groups at time t (1987)

m_i^t = part-time employment rate in industry i or age group i at time t

s_i^t = total employment in industry or age group i at time t, as a proportion of total employment

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Income inequality within provinces

Dimitri Sanga

Inequality of income distribution is a subject of continual debate. Canada is no less affected than other countries by this situation, whether at the national or provincial level. Public interest in this phenomenon is always high.

This article looks at the degree of inequality in the distribution of total income, market income and after-tax income within each province, and compares it with the degree of income inequality in the other provinces. The study does not consider which province has the highest or lowest average income, but which province has the most or the least inequality in its distribution of income. The article covers the years 1980 to 1998 (see *Data sources and definitions*).

The study does not attempt to determine the reasons for or sources of provincial inequalities, but rather to describe them and to see how they behave over time.

Studies that have addressed this issue so far seem to agree in most cases. All show differences in the degree of income inequality within the provinces. Some state that such differences between provinces have been shrinking since 1960. Others qualify their conclusions, arguing that it depends on how income is defined. Nevertheless, most seem to agree that inequalities in *earnings* have grown in the majority of provinces. Moreover, the trends observed are the same regardless of sex or age group (Finnie, 1998). Interprovincial variability indicators are higher for market income than for total income (Alter and Greenberg, 1990). The gaps are smaller, however, when the comparison is done with after-tax income. Thus, inequality tends to be reduced by taxes and government transfer payments, and increased by capital income.

In this analysis, inequalities in family income distribution are examined by province using a straightforward approach based on upper and lower quintile ratios. The family unit is treated as a whole, without regard for the presence or absence of children or for differences in the marital or labour market status of family members.

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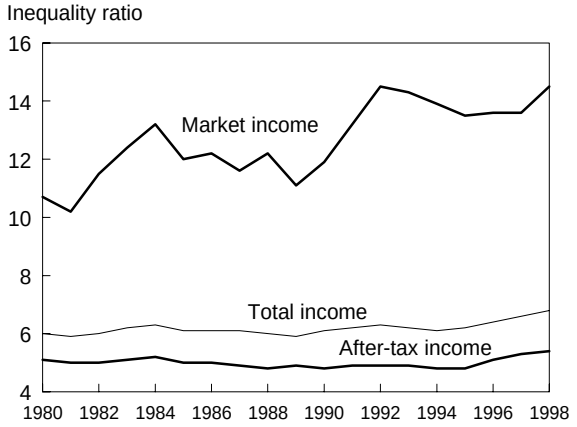
Gaps are widest for market income

In Canada, the inequality ratio was highest for market income and lowest for after-tax income for every year in the study period (Chart A). Inequalities are thus reduced by government transfer payments and income taxes. The gap in average market income between the upper and lower quintiles was at least twice as large as the average after-tax gap, regardless of the year. In 1998, for example, for every dollar of market income for the 20% of economic families with the lowest incomes, the 20% with the highest incomes had, on average, $14.50. When the comparison is based on after-tax income, the difference was only $5.40.

Chart A: Market income inequality has been higher than that of other income measures.



Sources: Survey of Consumer Finances; Survey of Labour and Income Dynamics

Data sources and definitions

The data, from the Survey of Consumer Finances (SCF) and the Survey of Labour and Income Dynamics (SLID), cover 1980 to 1998. The SCF was an annual supplement to the Labour Force Survey until 1997. The recent publication of 1998 income data in the annual report *Income in Canada* (Statistics Canada, 1998) introduced SLID as the official source of annual data on income, replacing the SCF. This article uses SLID estimates for 1996, 1997 and 1998, as well as those of the SCF for 1980 to 1995. The latter have been revised to make them comparable.

Economic family: two or more persons who live in the same dwelling and are related to each other by blood, marriage, common law or adoption.

Market income: total earnings (from paid employment or self-employment), investment income, retirement income (private pension plan) and "other income." It excludes government transfers. It is also known as income before taxes and transfers.

Government transfers: all direct payments to individuals and families by the federal, provincial and municipal governments: Old Age Security pensions, the Guaranteed Income Supplement, Spouse's Allowance, Canada and Quebec Pension Plan benefits, Child Tax Benefits, Employment Insurance benefits, workers' compensation benefits, credits for the goods and services tax (GST) or the harmonized sales tax (HST), provincial or territorial tax credits, social assistance payments and other payments.

Total income: income from all sources before deduction of federal and provincial taxes. Total income is also known as income before taxes (but after transfers). It includes market income and government transfer payments.

Income tax: total federal and provincial taxes on income and capital gains in a given year.

After-tax income: total income minus income taxes.

Quintile ratios: Most studies of provincial differences have used either the coefficient of variation or the Gini coefficient as a measure of inequality. This study uses the ratio of the average income of the top quintile to that of the bottom quintile. (The income averages are adjusted with sample weights.) This same measure is used in analyses accompanying published estimates of income distribution derived from the SCF.

For all measures of income, quintiles are formed by ranking the families in ascending order of after-tax income and dividing the entire sample into five equal parts. The top quintile consists of the 20% of families with the highest after-tax incomes, and the bottom quintile, the 20% of families with the lowest incomes. Thus, the average market income of the top quintile is the average market income of families in the **top after-tax income quintile**. This method keeps the composition of each quintile constant.

The inequality ratio measures how much the families in the top income quintile have, on average, for every dollar of those in the bottom quintile. The higher the ratio the greater the gap in income distribution among the families. For example, a ratio of 5 means that, on average, for every dollar claimed by the 20% of families with the lowest incomes, the 20% with the highest incomes had $5.

The inequality ratio for market income rose from 10.70 in 1980 to 14.50 in 1998. Most of the increase occurred during the recessions of the early 1980s and 1990s. The ratios for the other two income measures grew, but on a smaller scale: the total-income ratio edged up from 6.00 to 6.80 between 1980 and 1998, while the after-tax ratio shifted from 5.10 to 5.40. After remaining relatively stable in the early 1990s, they experienced a marked increase toward the latter half of the decade.

The findings for the various inequality ratios also apply provincially. Thus, for any year and any province, the inequality ratio was greatest for market income and smallest for after-tax income (Table), reflecting the effects of taxes and government transfers.

Inequality ratio varies by province

To compare income inequality by province, the study chose the provinces with the largest and smallest gaps in after-tax income. After-tax income was chosen because that was the measure used to form the income quintiles on which the inequality ratios were based. Moreover, after-tax income is closer to disposable family income.

In 1998, Prince Edward Island had the smallest inequality ratio for after-tax income, while Alberta had the largest (Chart B). In Prince Edward Island, the 20% of families with the highest incomes had $4.20 in after-tax income for every

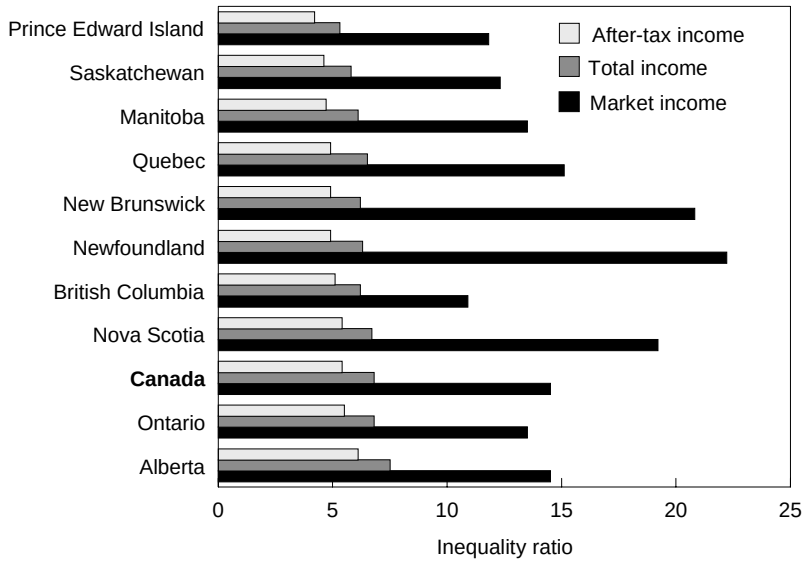
Table: Inequality ratios, by province

	Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
						$					
Market income											
1980	**10.70**	16.00	9.30	11.80	13.10	13.00	8.80	10.70	9.40	8.90	9.10
1981	**10.20**	17.90	12.90	13.10	16.40	11.20	8.10	12.00	14.30	8.20	9.60
1982	**11.50**	17.60	12.70	13.80	18.80	11.70	9.50	12.20	12.50	9.20	13.40
1983	**12.40**	14.50	10.30	13.90	20.90	12.30	10.70	12.00	12.10	11.60	12.70
1984	**13.20**	18.50	11.50	15.80	17.30	14.90	10.50	11.00	15.30	12.60	13.90
1985	**12.00**	21.80	10.40	13.00	16.40	13.10	9.50	10.30	15.40	9.60	13.00
1986	**12.20**	16.60	11.20	16.00	15.30	13.60	9.50	11.40	15.80	9.80	13.10
1987	**11.60**	16.90	11.30	13.60	16.60	12.70	9.20	10.50	11.80	10.40	13.50
1988	**12.20**	16.30	10.30	13.80	15.20	14.20	9.30	12.00	13.10	10.90	11.40
1989	**11.10**	15.30	13.60	15.10	14.70	12.40	9.20	10.50	12.30	11.80	9.00
1990	**11.90**	16.90	12.20	13.20	13.80	13.20	9.70	10.90	12.90	10.70	12.60
1991	**13.20**	18.80	12.30	13.40	15.60	15.60	11.90	11.50	10.90	11.00	10.70
1992	**14.50**	22.40	9.80	15.60	16.40	14.20	14.00	12.90	13.50	12.90	11.90
1993	**14.30**	21.70	10.40	18.30	14.60	14.50	13.70	12.00	13.50	11.90	13.70
1994	**13.90**	20.50	9.50	15.90	16.20	15.40	13.30	10.90	13.00	9.80	12.20
1995	**13.50**	30.40*	11.30	14.30	16.40	14.70	12.50	10.50	12.20	9.50	12.40
1996	**13.60**	19.20	9.60	16.80	19.90	15.30	12.90	12.90	13.20	10.40	10.20
1997	**13.60**	20.50	11.80	15.20	20.50	14.10	12.80	12.80	11.70	10.10	10.60
1998	**14.50**	22.20	11.80	19.20	20.80	15.10	13.50	13.50	12.30	14.50	10.90
Total income											
1980	**6.00**	6.10	5.00	5.40	5.20	6.00	5.70	6.10	6.00	6.40	5.90
1981	**5.90**	5.90	5.30	5.70	6.30	5.70	5.40	6.60	7.20	5.80	5.90
1982	**6.00**	5.90	5.30	5.60	6.00	5.70	5.60	6.30	6.50	6.20	6.70
1983	**6.20**	6.10	5.60	5.90	6.50	5.70	6.20	6.20	6.30	6.70	6.20
1984	**6.30**	5.80	4.90	6.10	6.20	6.30	6.00	5.80	7.00	6.80	6.50
1985	**6.10**	6.20	4.80	6.00	5.70	5.70	5.80	5.80	7.40	5.80	6.60
1986	**6.10**	5.60	4.80	6.10	5.40	5.90	5.80	6.00	7.50	5.90	6.20
1987	**6.10**	5.80	5.10	5.80	5.70	6.10	5.60	5.60	6.10	6.10	6.50
1988	**6.00**	5.50	4.70	5.60	5.40	5.90	5.70	5.80	6.30	6.00	5.70
1989	**5.90**	5.50	5.20	5.90	5.60	5.70	5.80	5.40	6.20	6.40	5.30
1990	**6.10**	5.70	5.00	5.50	5.40	5.80	5.80	5.80	6.50	6.10	6.70
1991	**6.20**	5.80	5.20	5.50	5.60	6.20	6.10	5.80	6.00	6.50	5.70
1992	**6.30**	6.20	4.70	6.10	5.70	5.70	6.30	5.80	6.60	6.80	6.10
1993	**6.20**	5.90	4.50	6.40	5.40	5.70	6.20	5.90	5.90	6.70	6.60
1994	**6.10**	6.20	4.30	6.10	5.90	6.00	6.10	5.30	5.90	5.90	6.00
1995	**6.20**	6.80	4.60	5.90	6.00	6.00	6.20	5.30	6.30	5.90	6.30
1996	**6.40**	5.90	5.00	6.20	6.10	6.30	6.40	6.10	6.20	6.40	5.90
1997	**6.60**	6.10	5.30	6.20	6.20	6.40	6.50	5.90	5.80	6.40	5.90
1998	**6.80**	6.30	5.30	6.70	6.20	6.50	6.80	6.10	5.80	7.50	6.20
After-tax income											
1980	**5.10**	5.10	4.30	4.60	4.50	4.80	4.90	5.10	5.30	5.40	5.20
1981	**5.00**	5.00	4.60	4.80	5.30	4.80	4.60	5.50	6.10	4.90	5.00
1982	**5.00**	5.00	4.50	4.60	5.00	4.60	4.70	5.30	5.40	5.30	5.60
1983	**5.10**	5.00	4.70	5.00	5.30	4.60	5.10	5.20	5.40	5.70	5.20
1984	**5.20**	4.90	4.30	5.10	5.10	5.00	5.00	4.80	5.90	5.80	5.30
1985	**5.00**	5.10	4.20	5.10	4.80	4.70	4.80	4.90	6.10	5.00	5.50
1986	**5.00**	4.60	4.00	5.00	4.50	4.80	4.80	4.90	6.00	5.00	5.20
1987	**4.90**	4.80	4.20	4.60	4.70	4.80	4.60	4.60	5.00	5.20	5.20
1988	**4.80**	4.60	4.00	4.50	4.40	4.60	4.60	4.50	5.00	4.80	4.70
1989	**4.90**	4.50	4.30	4.70	4.50	4.40	4.70	4.50	4.90	5.10	5.10
1990	**4.80**	4.60	4.20	4.40	4.40	4.50	4.60	4.50	5.20	4.80	5.40
1991	**4.90**	4.70	4.20	4.40	4.50	4.70	4.90	4.50	4.70	5.00	4.60
1992	**4.90**	5.00	3.90	4.80	4.60	4.40	5.00	4.50	5.30	5.40	4.80
1993	**4.90**	4.80	3.80	5.00	4.40	4.40	4.90	4.60	4.60	5.30	5.20
1994	**4.80**	4.90	3.60	4.80	4.70	4.50	4.70	4.20	4.60	4.80	4.80
1995	**4.80**	5.30	3.80	4.70	4.80	4.50	4.80	4.20	4.80	4.80	5.00
1996	**5.10**	4.80	4.20	5.00	4.90	4.80	5.00	4.80	4.90	5.00	5.30
1997	**5.30**	4.80	4.30	5.00	5.00	5.30	5.20	4.70	4.70	5.30	5.00
1998	**5.40**	4.90	4.20	5.40	4.90	4.90	5.50	4.70	4.60	6.10	5.10

Sources: Survey of Consumer Finances; Survey of Labour and Income Dynamics

* *Because the data are based on sample surveys, occasionally, as in 1995, an outlier may affect results.*

Chart B: In each province, market income shows the greatest inequality.



Source: Survey of Labour and Income Dynamics, 1998

than for total income or after-tax income—and it increased over time (from 7.20 in 1980 to 11.30 in 1998). The largest gap was almost 21 in 1995. This was attributable to an exceptionally high ratio for market income in Newfoundland (30.40)[2] in contrast to a low of 9.50 in Alberta.

Despite relative stability at the beginning of the study period, up to the mid-1990s, differences grew between the province with the lowest ratio for total and after-tax income and that with the highest. The differences sharpened between 1997 and 1998. Over the full 1980-to-1998 period, the gap in total income grew from 1.40 to 2.20, while that for after-tax income edged up from 1.10 to 1.90.

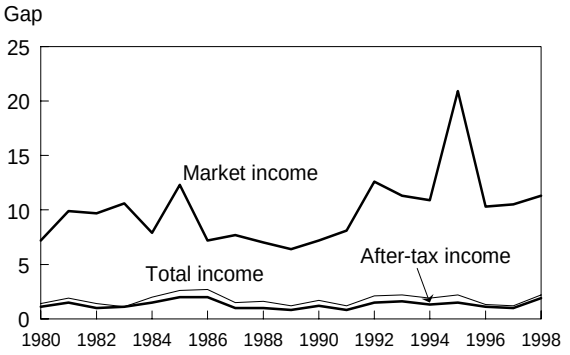
dollar of the 20% with the lowest incomes. In Alberta, this gap was $6.10. The difference between these two provinces was smaller for after-tax income ($1.90) than for market income ($2.70), matching the intraprovincial trends. This comparison can be made for any pair of provinces.

Provincial differences in market income have widened

The study also looked at provincial differences in income inequality each year from 1980 to 1998, by studying the gap between the province having the greatest inequality and the one having the least.

Once again, market income demonstrated the largest difference in inequality ratios each year (Chart C).[1] Over the entire period studied, the difference was about seven times larger, on average, for this measure

Chart C: Market income displays the greatest gap* in interprovincial inequality ratios.



Sources: Survey of Consumer Finances; Survey of Labour and Income Dynamics

** Because the data are based on sample surveys, occasionally, as in 1995, an outlier may affect results.*

How has inequality changed within provinces?

An examination of the change in gaps within each province from 1980 to 1998 confirms the observations about differences between the provinces. That is, inequalities in market income tended to increase (Table). The two other income measures reveal a similar tendency—though on a smaller scale—for the majority of provinces.

As for market income ratios, Alberta, Newfoundland, Nova Scotia and Prince Edward Island saw very marked increases from 1996 to 1998. Their ratios grew by 4.10, 3.00, 2.40 and 2.20, respectively. Over the same period, moderate increases took place in New Brunswick (0.90), British Columbia (0.70), Ontario (0.60) and Manitoba (0.60). Quebec and Saskatchewan registered drops in their inequality ratios.

Between 1996 and 1998, only Saskatchewan saw a slight decline (0.40) in its ratio for total income, while Manitoba's remained stable. This ratio edged up by 1.10 in Alberta and by less than 0.60 in the rest of the provinces. In the case of after-tax income, the ratio in Saskatchewan dipped by 0.30, and those of British Columbia and Manitoba, by 0.20 and 0.10. Alberta registered an increase of 1.10, while Ontario, Nova Scotia, Quebec and Newfoundland saw rises of less than 0.60. Ratios in New Brunswick and Prince Edward Island remained stable.

Summary

Inequalities in income distribution within provinces follow a pattern consistent with the findings of a number of studies. In particular, market income exhibits greater inequality than the other two measures, total income and after-tax income. The same observation applies at the national level.

Throughout the period studied, Prince Edward Island exhibited the lowest inequality ratio for both total income and after-tax income. Newfoundland had, for most of the period, the highest inequality ratio with respect to market income.

The results of this analysis apply to economic families, without regard for family composition. One possible avenue of future research would be to study the differences in inequality ratios relative to family composition. As well, these ratios could be based on income deciles rather than quintiles (see *Ratios based on total income quintiles and deciles*), which would provide

Ratios based on total income quintiles and deciles

The ratio of the average income of the top decile to that of the bottom decile measures how much the 10% of families with the highest incomes have, on average, for every dollar of the 10% of families with the lowest incomes. Ratios based on deciles are higher than those based on quintiles.

	Quintiles	Rank	Deciles	Rank
British Columbia	7.1	1	14.0	1
Canada	**6.2**		**10.4**	
Ontario	6.0	2-3	10.1	3
Manitoba	6.0		9.7	4
Alberta	5.9	4-5-6-7	10.6	2
Quebec	5.9		9.6	5
Saskatchewan	5.9		9.5	6
Nova Scotia	5.9		8.8	8
New Brunswick	5.7	8	9.3	7
Newfoundland	5.5	9	8.4	9
Prince Edward Island	4.4	10	6.3	10

Source: Survey of Consumer Finances, 1997

Ratios of averages and medians based on total income deciles

The ratios are based on the amount that families in the appropriate quintiles or deciles have, on average. Median income could be used instead. Ratios based on averages are higher than those based on medians.

	Average	Rank	Median	Rank
British Columbia	14.0	1	9.0	2
Alberta	10.6	2	9.1	1
Canada	**10.4**		**8.7**	
Ontario	10.1	3	8.4	3
Manitoba	9.7	4	8.1	5
Quebec	9.6	5	8.3	4
Saskatchewan	9.5	6	7.6	8
New Brunswick	9.3	7	7.9	6
Nova Scotia	8.8	8	7.7	7
Newfoundland	8.4	9	7.5	9
Prince Edward Island	6.3	10	5.6	10

Source: Survey of Consumer Finances, 1997

some idea of the difference between incomes of the 10% of families with the highest incomes and those of the 10% of families with the lowest. Another option would be to use median income instead of average income, based on either quintiles or deciles (see *Ratios of averages and medians based on total income deciles*).

Notes

1 The pattern for all provinces combined was similar.

2 Because the data are based on sample surveys, occasionally, as in 1995, an outlier may affect results.

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