# PERSPPECTIVES 

## ON LABOUR AND INCOME

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- THE RISING PROFILE OF WOMEN ACADEMICS

The Labour
MARKET IN 2004

- FACT SHEET ON

TAXFILERS: 1972-2002


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. not available for any reference period
.. not available for a specific reference period
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p preliminary
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## Forum

## From the Managing Editor

- Starting with this issue, Perspectives on Labour and Income will publish a thematic set of indicators highlighting income and consumption taxes paid by Canadians. These will be found in the Key Labour and Income section. Historical perspectives on taxfilers, type of tax paid (income, GST, sales), vertical and horizontal equity of income tax, filers paying no income tax and those receiving tax credits, as well as international comparisons of tax loads will be included. Various sources will be used, including the Canada Revenue Agency, Statistics Canada, Department of Finance, OECD, and the World Bank.

Income and sales taxes are the major sources of funds for both the federal and provincial governments and thus affect their ability to deliver public programs and services. Individuals pay taxes expecting that governments will provide the appropriate public services. Determining the optimum level of taxation and mix of services is one of the basic challenges of governments.

Higher taxes mean less disposable income to save or spend on private consumption. They also affect income distribution since Canada has a progressive income tax system: those with higher incomes pay
taxes at higher rates than those with low incomes. The GST and provincial sales taxes, on the other hand, are collected at the same rate for everyone although their sting is lessened by income tax rebates for low income families.

In this first instalment, a historical perspective on taxfilers is presented in 15 charts. With the exception of the first chart, the period examined is 1972 to 2002. The charts cover the population 15 and over, outlining the number of taxfilers and their sex, age, assessed income, deductions and tax paid. These are then linked with federal and provincial government revenues, expenditures on goods and services, and finally the GDP. The last four indicators, based on macroeconomic data, will also be used in international comparisons.

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## Highlights

## The rising profile of women academics

- Close to 11,000 women were full-time faculty members of Canadian universities in 2002-03, accounting for $30 \%$ of all full-time faculty-a notable improvement from $20 \%$ only twelve years earlier.
- Women strengthened their presence during the period in both traditional and non-traditional disciplines and made notable gains in tenure status and academic rank.
- Women's median salaries remain below those of their male colleagues, although the gap generally narrows when rank and field of study are taken into account.


# PEBSPPECTIVES 

## ON LABOUR AND INCOME

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# The rising profile of women academics 

Deborah Sussman and Lahouaria Yssaad

Over the past several decades, Canadian women have made significant inroads into many traditionally male-dominated occupations. Increased labour force participation and higher levels of education have led to women's growing presence in a wide range of occupations (Hughes 1990, 1995). One of these is full-time university teaching. ${ }^{1}$

Women's representation in university faculties resonates on several levels. For one thing, women on staff provide positive role models for the growing number of female students entering university and on the verge of a career. Having women in prominent academic positions can encourage female students to consider a career in academia or other similarly well-paid, highstatus, male-dominated fields. And while one does not have to be a woman to be supportive of female students, some have suggested that women make their classrooms more inclusive by using teaching styles and examples that are friendlier to their female audience. Finally, at a time when universities are increasingly expected not only to deliver high quality education, but also to contribute to the economic and social well-being of their local communities, equity concerns may prompt employers to ensure that their workforces reflect the qualified candidates available. ${ }^{2}$

The imbalance in representation at the university level appears to be decreasing as more and more women pursue educational paths that could lead to university-level positions. Indeed, between the

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academic years 1960-61 and 1989-90, the number of women teaching full time at Canadian universities rose tenfold, almost doubling their share of full-time faculty from $11 \%$ to $20 \%$ (Lee 1993). Since this time, the number has continued to grow, increasing by over $50 \%$ between 1990-91 and 2002-03-more than double the growth in women's full-time employment in general. By contrast, during the same period, their male counterparts declined by $14 \%$ (Chart A), while overall full-time university staff returned to its 1990-91 level. This reduction for men combined with the growth for women served to increase women's share of fulltime university teaching staff to $30 \%$ in 2002-03. ${ }^{3}$
However, women's representation at the university level has not been uniform at all ranks of academic appointment and across all fields of instruction (Lee 1993). This article looks at the growth in the number of women teaching full time at universities between 1990-91 and 2002-03, examining changes in their representation by academic rank, tenure, and field of instruction (see Data source and definitions). ${ }^{4}$ Academic credentials, age structure, and earnings are also

Chart A: Women have made impressive gains as full-time faculty since


Source: University and College Academic Staff System

## Data source and definitions

The University and College Academic Staff System is an administrative database, which provides annual information on the number and characteristics of all full-time teaching staff in degree-granting institutions in Canada. It contains demographic, education program, and salary information.

The analysis covers all full-time teaching staff employed in public or private degree-granting institutions as of October 1 of the 1990-91 to 2002-03 academic years. These include universities, colleges affiliated with universities (for example, Renison College, affiliated with the University of Waterloo), and specialized colleges (for example, Nova Scotia College of Art and Design, Royal Military College, or Saint Augustine's Seminary). Teaching staff in community colleges or trade and vocational schools are excluded.

Teaching staff are referred to as university staff, and the institutions themselves are described as universities. Included are senior academic staff (for example, deans, chairpersons, directors), academic staff in teaching hospitals, visiting academic staff, and full-time research staff who have an academic rank and salary scale similar to teaching staff. Academic staff on sabbatical or maternity leave are also included.

Excluded are administrators solely responsible for administration (for example, president, vice-president, registrar, comptroller), administrative assistants, librarians, non-academic support staff, markers, demonstrators, lab assistants, graduate teaching assistants, postdoctoral fellows, and academic staff who have been hired as researchers without academic rank whose salary scales are different from teaching staff.

Part-time university teaching staff are not examined in this study. Information on this workforce is available from a previously published study (see Part-time university faculty).

Salaries are based on annual rates of pay. This includes additional payments or honoraria for administrative functions, but excludes such items as employee benefits, overtime pay and compensation for extension work. Also
excluded is employment income from other sources, such as private contracts or consultancy. Salaries of individuals who were employed full time but for less than 12 months have been adjusted to an annual rate. For staff on sabbatical leave, the annual rate of pay is the salary they would have received had they been teaching. Only teachers paid according to regular salary scales are included in the earnings analysis. Those on leave without pay and certain staff in denominational institutions are excluded.

## Academic rank

Full professor: the most senior position, always tenured.
Associate professor: mid-level with requirements varying considerably between institutions and departments. In most institutions the position is tenured, though if awarded to a non-tenured person it is usually tenure-track.

Assistant professor: entry-level, never tenured, although in most institutions the term is used for tenure-track positions.

Lecturer or instructor
Staff ranked below lecturer or instructor (for example, coaches) and ungraded staff are grouped together in the 'other' category.

## Qualifications

The following nine categories are used to designate the highest level of education attained by university staff: doctorates (for example, PhD, EdD, DS, DSW); professional degrees (excluding master's and bachelor's degrees), which consist of medical and paramedical degrees only (for example, MD, DDS, DDM, DVM); master's degrees and equivalent licences (for example, MA, MSW, MBA); graduate diplomas; bachelor's degrees (for example, LLB, BA, BSc., BEd); professional designations other than a degree for example CA, CGA, RIA, teaching certificates); undergraduate diplomas; no degree, diploma or professional designation; unknown educational qualification.
examined. Finally, factors that could affect the sustainability of women's growing presence in academia are addressed through a look at issues related to retirement, new appointments, and the changing proportion of doctorates being awarded to women in various fields of study.

## A decade of impressive gains for women

In 2002-03, almost 11,000 women full-time faculty members were teaching at more than 70 universities (Table 1). Except for a slight drop in 1996-97, women's presence increased steadily after 1990. In contrast,
the number of men was relatively stable during the early part of the 1990s, but dropped steadily from 1993-94 to 1999-2000. This was followed by marginal increases from 2000-01 onwards. As a result of these opposing trends, full-time faculty were slightly fewer in 2002-03 than in 1990-91, but the proportion of women had increased from $20 \%$ to $30 \% .{ }^{5}$

Women accounted for a significant portion of new appointments during the period. ${ }^{6}$ In 1990-91, $35 \%$ of new appointments were women; by 2002-03, this had risen somewhat to $39 \%$. The majority ( $62 \%$ ) of new appointments were at the assistant professor rank.

Table 1: Full-time university faculty

|  | $1990-91$ | $1994-95$ | $1998-99$ | $2002-03$ |
| :--- | ---: | ---: | ---: | ---: |
| Total - All ranks | $\mathbf{3 6 , 4 3 0}$ | 36,400 | 33,670 | 36,050 |
| Men | 29,300 | 28,120 | 24,860 | 25,270 |
| Women | 7,120 | 8,280 | 8,800 | 10,780 |
| \% women | 19.6 | 22.7 | 26.2 | 29.9 |
| Full professor | 13,680 | 14,850 | 13,870 | 13,930 |
| Men | 12,640 | 13,270 | 11,970 | 11,530 |
| Women | 1,040 | 1,580 | 1,900 | 2,390 |
| \% women | 7.6 | 10.7 | 13.7 | 17.2 |
|  |  |  |  |  |
| Associate professor | 12,630 | 12,770 | 12,010 | 11,680 |
| Men | 10,160 | 9,670 | 8,520 | 7,790 |
| Women | 2,470 | 3,100 | 3,490 | 3,890 |
| \% women | 19.5 | 24.3 | 29.1 | 33.3 |
|  |  |  |  |  |
| Assistant professor | 7,730 | 7,300 | 6,300 | 8,650 |
| Men | 5,170 | 4,490 | 3,630 | 5,130 |
| Women | 2,570 | 2,820 | 2,660 | 3,520 |
| \% women | 33.2 | 38.6 | 42.3 | 40.7 |
| Lecturer, instructor or other | 2,380 | 1,480 | 1,490 | 1,800 |
| Men | 1,340 | 700 | 740 | 820 |
| Women | 1,050 | 780 | 750 | 980 |
| \% women | 43.9 | 52.6 | 50.4 | 54.6 |

Source: University and College Academic Staff System

These were more evenly distributed between men and women (59\% versus $41 \%$ ) than appointments at higher levels. For example, at the full professor level ( $8 \%$ of all appointments), only $15 \%$ of new appointments were women, a marginal improvement from $12 \%$ in 1990-91 (data not shown).

## Faculty women younger than their male colleagues

The age structure of university faculty is comparatively older than the workforce in general, with a median age of 49 years in 2002-03. ${ }^{7}$ This may reflect the long years of study required to meet the necessary qualifications for teaching at the university level, as well as the lingering effects of deep funding cuts by provincial governments that hindered the hiring of young people during the early 1990 s (Lewington 1995). Nevertheless, female faculty members tended to be younger than their male colleagues, with a median age of 47 versus 51 (up from 44 and 48 in 1990-91).

This age differential held in all fields of instruction (Chart B). The youngest women were in engineering and the applied sciences (median age of 42), and mathematics and the physical sciences (43). The corresponding median ages for men were 46 and 49 . Women tended to be older in the more traditional fields, such as education (50), fine and applied arts (49), the humanities (48) and health (48).

Chart B: Faculty women tend to be younger than their male colleagues.


[^0]
## Strengthened presence in both traditional and non-traditional disciplines

The vast majority of female full-time faculty members are clustered in certain disciplines. In 2002-03, the social sciences accounted for the highest proportion of both women $(28 \%)$ and men ( $26 \%$ ). But, as has been the case for decades, women remain more concentrated in another three of the eight fields studiednamely, health (mainly in nursing and rehabilitation medicine), humanities, and education. Together these accounted for $52 \%$ of women versus $35 \%$ of men on full-time faculty. In contrast, only a minority of women ( $9 \%$ ) taught in engineering and applied sciences, or mathematics and physical sciences (compared with $28 \%$ of men).

What has improved over time, however, is the share of women in all fields of instruction. From 1990-91 to 2002-03, the proportion of full-time faculty positions they held increased dramatically and steadily in all disciplines, including the non-traditional fields of engineering and applied sciences (from 3\% to 10\%)
and mathematics and physical sciences (from $7 \%$ to $13 \%$ ) (Chart C). But the process is slow, as women entering academia need time to advance through the system (Chen 2004).

## Notable gains in tenure status and academic rank

Women made notable gains in tenure status over the period. ${ }^{8}$ Only $14 \%$ of all tenured staff were women in 1990-91, but this had almost doubled to $26 \%$ by 200203. The comparative figures for tenure-track positions were $34 \%$ and $38 \%$ respectively. ${ }^{9}$
Almost half of all male tenured faculty were 55 or older, compared with only one-third of their female colleagues. Most ( $60 \%$ ) tenured women were between 40 and 54 years of age. Few of either sex were below 40 .

Related to tenure (and perhaps a more telling indicator of status) is the presence of women within the different academic ranks: full professor; associate professor; assistant professor; and lecturer, instructor

Chart C: Women have strengthened their presence in all disciplines.


Source: University and College Academic Staff System
or other. Although at successively higher ranks women continued to hold a declining portion of academic posts, their relative standing improved greatly during the 1990s (Chart D). While only $8 \%$ of all full professors were women in 199091, the proportion had more than doubled to $17 \%$ by $2002-03$.
Similarly, only one in five associate professors in 1990-91 were women; by 2002-03 this had increased to one in three. Women's presence grew in the lower ranks as well, rising to $41 \%$ of all assistant professors (from $33 \%$ ) and $55 \%$ of all lecturers, instructors and other faculty (from 44\%). These gains were seen in all disciplines, including those traditionally dominated by men.

In spite of gains made over the past decade, women continue to have a weaker presence at the upper academic ranks and among tenured faculty generally. This partly reflects the time it takes to reach these senior levels. Women have entered university in large numbers only relatively recently (Lee 1993) and

Table 2: Full-time faculty by age and rank*

|  | Both sexes | Men | Women | Incidence of women | Distribution of |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Men | Women |
| Less than 40 |  |  |  |  | \% |  |
| All ranks | 6,660 | 4,280 | 2,390 | 36 | 100 | 100 |
| Full professor | 120 | 100 | 20 | 19 | 2 | 1 |
| Associate professor | 1,380 | 960 | 420 | 30 | 22 | 17 |
| Assistant professor | 4,630 | 2,950 | 1,680 | 36 | 69 | 70 |
| Lecturer, instructor or other | 540 | 270 | 270 | 51 | 6 | 11 |
| 40 to 54 |  |  |  |  |  |  |
| All ranks | 17,610 | 11,660 | 5,950 | 34 | 100 | 100 |
| Full professor | 6,080 | 4,830 | 1,250 | 21 | 41 | 21 |
| Associate professor | 7,140 | 4,550 | 2,590 | 36 | 39 | 44 |
| Assistant professor | 3,480 | 1,900 | 1,580 | 45 | 16 | 27 |
| Lecturer, instructor or other | 910 | 380 | 530 | 58 | 3 | 9 |
| 55 and over |  |  |  |  |  |  |
| All ranks | 11,740 | 9,320 | 2,420 | 21 | 100 | 100 |
| Full professor | 7,720 | 6,600 | 1,120 | 15 | 71 | 46 |
| Associate professor | 3,160 | 2,280 | 880 | 28 | 25 | 36 |
| Assistant professor | 510 | 270 | 250 | 48 | 3 | 10 |
| Lecturer, instructor or other | 350 | 170 | 180 | 51 | 2 | 7 |

Source: University and College Academic Staff System, 2002-03

* May not add up to totals in other tables because of missing values for age.
thus are younger, on average, than their male colleagues. Indeed, when age is factored into the analysis of women's presence by rank, its importance becomes more apparent (Table 2).

In 2002-03, women accounted for $36 \%$ of all full-time faculty under age $40,34 \%$ of those between 40 and 54 , but only $21 \%$ of those 55 and older. At the full professor level, however, only $19 \%$ under 40 were women, as were $21 \%$ of those between 40 and 54 , and $15 \%$ of those 55 and older. Similarly, at the associate professor level, women made up only $30 \%$ of those under $40,36 \%$ of those between 40 and 54 , and $28 \%$ of those 55 and older. The lower proportions of women under 40 in these upper academic ranks (compared with women aged 40 to 54 ) may be related to some being absent from the pool of qualified female candidates because of family responsibilities.

Another aspect of gains among women academics is the rising proportion of female faculty members who are full professors or associate professors (and a corresponding decline at the lower levels of assistant professor and lecturer). In 1990-91, only $15 \%$ of women working full time held full professorships, while $35 \%$ held associate professorships. By 2002-03, the proportions stood at $22 \%$ and $36 \%$ respectively, for a total of $58 \%$ in the upper echelons. While not yet
at the high concentration of their male colleagues (nearly $80 \%$ of whom were full or associate professors in 2002-03), the situation for women appears to be slowly improving (Chart E).

In 2002-03, $81 \%$ of all male faculty members held a doctorate, as did $72 \%$ of their female counterpartsa significant change from 1990-91 when the figures were $73 \%$ and $56 \%$. Virtually all remaining faculty members held either a master's (nearly $20 \%$ of women and $10 \%$ of men), or a professional degree ( $5 \%$ of women and $6 \%$ of men). ${ }^{10}$

The qualifications gap between men and women appears to be related to academic rank. The discrepancy was much smaller in the upper ranks- $86 \%$ of men who were full professors held doctorates, as did $83 \%$ of women; similarly, $81 \%$ of men and $80 \%$ of women who were associate professors held doctorates. At each level, the proportions went up over the decade (Table 3).

However, when looked at another way, a different picture emerges. While almost half of all male faculty members with doctorates were full professors, only $26 \%$ of their female counterparts held such positions in 2002-03 (Chart F).

A closer look at academic rank also reveals important age distinctions between the sexes, shedding more light on current trends. For example, 7 in 10 women under 40 in 2002-03 were assistant professors, similar to their male counterparts; a further $18 \%$ had attained the rank of associate or full professor, as had $24 \%$ of the men. However, significant differences were evident in older age groups, particularly at the full professor level: 41\% of men but only $21 \%$ of women aged 40 to 54 were in this category, as were $71 \%$ of men but only $46 \%$ of women 55 and over (Table 2).

## Educational qualifications rising

As competition for jobs in the general economy has intensified, academic credentials have increased. This is also true in the academic labour market, where more and more full-time faculty members hold doctorates.

Table 3: Full-time faculty with doctorates

|  | Men |  | Women |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 1990-91 | 2002-03 | 1990-91 | 2002-03 |
|  | \% with doctorate |  |  |  |
| All ranks | 73 | 81 | 56 | 72 |
| Full professor | 84 | 86 | 81 | 83 |
| Associate professor | r 73 | 81 | 66 | 80 |
| Assistant professor | 62 | 79 | 54 | 70 |
| Lecturer, instructor or other | 20 | 29 | 14 | 18 |

[^1]This represented some improvement for women since 1990-91, while the situation for men remained unchanged. By contrast, $40 \%$ of female faculty members with doctorates were associate professors and another $32 \%$ were assistant professors. The corresponding proportions for men were $31 \%$ and $20 \%$. In short, women with doctorates tended to be found in the lower ranks, with little change in the standings since 1990-91.

This seems to suggest a lack of upward mobility for women, particularly to full professor. However, other factors may also be at work. Firstly, women's lack of seniority may reflect their relatively recent entrance in large numbers into the academic labour market, which would tend to make them
younger on average. Indeed, the proportion of women with doctorates who had reached the full professor level by 2002-03 increased dramatically with age, from $1 \%$ among those under 40 to $53 \%$ among those 55 and older; the corresponding proportions for their male counterparts were $3 \%$ and 75\% (Table 4).
Secondly, women's tendency to experience more work interruptions (because of maternity leave or periods of part-time employment while raising children), particularly during the earlier part of their career, may also influence their professional experience and opportunities for promotion (see Do babies matter?). Differences in time spent on research activities and in research productivity may be potential reasons for women's

Table 4: Full-time faculty with doctorates by age and rank, 2002-03*

|  | $\begin{array}{r} \text { Both } \\ \text { sexes } \end{array}$ | Men | Women | Distribution of |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Men | Women |
|  |  |  |  |  | \% |
| Under 40 |  |  |  |  |  |
| All ranks | 5,220 | 3,500 | 1,720 | 100 | 100 |
| Full professor | 110 | 90 | 20 | 3 | 1 |
| Associate professor | 1,250 | 880 | 370 | 25 | 21 |
| Assistant professor | 3,770 | 2,470 | 1,300 | 71 | 75 |
| Lecturer, instructor and other | 90 | 50 | 40 | 2 | 2 |
| 40 to 54 |  |  |  |  |  |
| All ranks | 13,650 | 9,430 | 4,230 | 100 | 100 |
| Full professor | 5,240 | 4,200 | 1,040 | 45 | 25 |
| Associate professor | 5,770 | 3,700 | 2,070 | 39 | 49 |
| Assistant professor | 2,430 | 1,410 | 1,030 | 15 | 24 |
| Lecturer, instructor and other | 210 | 120 | 90 | 1 | 2 |
| 55 and over |  |  |  |  |  |
| All ranks | 9,350 | 7,580 | 1,770 | 100 | 100 |
| Full professor | 6,590 | 5,660 | 930 | 75 | 53 |
| Associate professor | 2,360 | 1,700 | 650 | 22 | 37 |
| Assistant professor | 300 | 150 | 140 | 2 | 8 |
| Lecturer, instructor and other | 110 | 70 | 40 | 1 | 2 |

[^2]Chart F: Women with doctorates: underrepresented at full professor level, overrepresented at assistant professor.


In 2002-03, the median salary of female faculty members was some $\$ 13,000$ lower than that of their

## Do babies matter?

A recent American study, Do babies matter? The effect of family formation on the lifelong careers of academic men and women, found that babies not only matter a great deal, but their timing is also important (Mason and Goulden 2002). The findings showed a consistent and large gap in achieving tenure between women who had started a family within five years after completing their doctorate compared with men in a similar position. This gap persisted across all disciplines and types of institutions. For most academics, these years represent a critical time in career development accompanied by high demands and high job insecurity.

Similarly, a Canadian study of the workforce in general found a wage advantage associated with delayed motherhood (Drolet 2002). Again, this advantage arose, at least in part, because the acquisition of job-related skills and significant wage growth are concentrated at the start of a career, which may coincide with decisions regarding marriage and children.
male colleagues. With university salaries scaled according to rank, however, much of the difference can be attributed to women being disproportionately in the lower ranks. When the median salaries of men and women of equal academic rank are considered, the difference narrows substantially-from \$6,100 at the full professor level (where women earned $94 \%$ of men's salaries in 2002-03) to $\$ 2,600(96 \%)$ at the assistant professor level (Table 5).
The principal subject taught also affects median salary differentials. In 2002-03, male-female differences in median salaries were lower among faculty members in education (where men's median earnings were $\$ 7,300$ higher) and fine and applied arts (\$9,500 higher)—disciplines with higher concentrations of women and lower median salaries generally. By contrast, greater earnings differentials were noted in social sciences $(\$ 14,000)$, mathematics $(\$ 13,400)$, and engineering $(\$ 12,800)$ —disciplines with the highest median salaries and comparatively lower proportions of women. These differences likely arise, in part, because women tend to be younger in these fields, and therefore less likely to have attained senior positions or to be at the top of their salary scale. Moreover, in recent years, universities have introduced 'market supplements' to boost salaries in areas where they have not been competitive with the private sector-for example, engineering, computer sciences, business and law (Schmidt 2004).

A similar picture emerges when academic rank and principal subject taught are considered together. For example, among female full professors in education, where the highest percentage of women of that rank are found, the earnings differential was $\$ 2,500$ in 200203. By contrast, much larger differences were found among full professors in engineering $(\$ 9,500)$ or mathematics $(\$ 7,800)$, disciplines having by far the lowest percentages of women at the full professor level. The persistence of lower median earnings among female faculty, even within the same academic rank and field, may be explained in part by differences in age, experience and seniority (Lee 1993). ${ }^{12}$
Another factor related to academic salaries is the federal government's Canada Research Chairs program, launched in 2000 to create 2,000 elite professorships with top salaries (Schmidt 2004). So far, almost $70 \%$ of these positions have been filled, the vast majority ( $80 \%$ ) by men. ${ }^{13}$ It is not known how this program will affect salary differences.

## Women's increased presence in academia likely to continue

Women's growing presence in academia is likely to continue. Opportunities for the recruitment and advancement of female candidates are expected to be created from two important sources-the growing pool of women with doctorates and the retirement of senior male faculty.

As regards the former, women have made significant strides in obtaining the education required to pursue an academic career (Toutkoushian 1999). Indeed, the number of doctorates being awarded to women rose significantly between 1989-90 and 1999-2000, and their share of doctoral degrees climbed steadily after 199394 (Table 6). ${ }^{14}$
Despite these gains, some disparities remain in women's representation among doctoral recipients across the different disciplines. For example, in 1999-2000, women accounted for more than two-thirds of all doctorates awarded in education; about half of those in the social sciences, the humanities, and fine and applied arts; and almost half ( $45 \%$ ) in health. By contrast, they continue to be poorly represented in the traditionally male-dominated fields. Indeed, women made up about one-fifth of all doctorates awarded in mathematics and the physical sciences, and only $13 \%$ of those in engineering and the applied sciences.

Table 5: Median salary by sex, rank and field of instruction


Source: University and College Academic Staff System, 2002-03

Table 6: Earned doctorates

|  | $1989-$ <br> 90 | $1991-$ <br> 92 | $1993-$ <br> 94 | $1995-$ <br> 96 | $1997-$ <br> 98 | $\mathbf{2 0 0 0}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  |  |  |  |  |  |
| Both |  |  |  |  |  |  |
| sexes | $\mathbf{2 , 5 5 0}$ | $\mathbf{3 , 0 3 0}$ | $\mathbf{3 , 4 4 0}$ | $\mathbf{3 , 8 2 0}$ | $\mathbf{3 , 8 5 0}$ | $\mathbf{3 , 7 1 0}$ |
| Men | 1,760 | 2,100 | 2,430 | 2,550 | 2,470 | 2,200 |
| Women | 790 | 930 | 1,010 | 1,280 | 1,380 | 1,510 |
| \% women | 31 | 31 | 29 | 33 | 36 | 41 |

Source: University Student Information System

Nevertheless, the latter discipline indicates a marked improvement since 1989-90, when the proportion was a mere $5 \%$.
The retirement of faculty members would appear to be a pressing concern for universities, since one in three academics was 55 or older in 2002-03 (Chart G). The vast majority were men, and accounted for over onequarter of all employed faculty that year. In comparison, women 55 and over made up only $7 \%$ of the academic workforce.

A related issue is mandatory retirement, usually at age 65. This policy, which varies from province to province, may affect the timing of retirement of faculty

Chart G: In 2002-03, faculty men were closer to the traditional retirement age of 65 .


Source: University and College Academic Staff System

## The rising profile of women academics

## Mandatory retirement

In 1990, the Supreme Court of Canada issued a landmark ruling on mandatory retirement in upholding the practice in a case involving university professors. The court stated that although mandatory retirement is discriminatory, it is a reasonable limit on an individual's rights. Specifically, the Court concluded that:
[Mandatory retirement] ensures continuing faculty renewal, a necessary process to enable universities
to be centres of excellence. Universities need to be on the cutting edge of new discoveries and ideas,
and this requires a continuing infusion of new people.

- McKinney v. University of Guelph,
[1990] 3 S.C.R. 229
University administrations favour mandatory retirement policies since they facilitate planning and help anticipate staffing needs, which are premised on the expectation that the employee will retire at an established age. Without mandatory retirement, its supporters charge that payroll, benefit and pension costs would increase.

On the other hand, faculty members in particular oppose mandatory retirement. Aside from the infringement on their freedom of choice, they fear it to be a means by which universities can save money at the expense of their most experienced members-those whose experience and reputations are necessary to attract and supervise graduate students, mentor
junior faculty members, and recruit senior scholars for prestigious Canada Research Chair positions. As well, mandatory retirement can pose an obstacle to teaching staff, particularly women who have begun their academic careers later in life or whose careers have been shortened by interruptions to raise children. These individuals have likely accumulated smaller pensions as a result, and may be forced to retire at what could be the peak of their careers (Tamburri 2003).

In 2002, only $2 \%$ of full-time academics in Canadian universities were aged 65 or older. Proportions in two of the four provinces without mandatory retirement, however, were above average-5\% in Manitoba and 4\% in Quebec. On the other hand, in five of the six provinces where employers have recourse to mandatory retirement, rates were $1 \%$ or less (except in Saskatchewan, where the University of Saskatchewan has a mandatory retirement age of 67). Moreover, according to a forthcoming study, these differences may have widened in recent years. Nevertheless, even in the absence of mandatory retirement, it appears that only a small fraction of academics are likely to keep working much beyond age 65 (Worswick forthcoming).
In all provinces, faculty members working past 65 were overwhelmingly men.

## Provisions governing mandatory retirement

| Jurisdiction | Provisions | Full-time faculty 65 or older in 2002 (\% men) |
| :---: | :---: | :---: |
| Federal | Not discriminatory if the person has reached the normal age of retirement for employees in the same type of work. | 2\% (88\%) |
| British Columbia | Age 65 if required by employer. | 1\% (87\%) |
| Alberta | None. | 2\% (84\%) |
| Saskatchewan | Age 65 if required by employer. | 3\% (89\%) |
| Manitoba | None. | 5\% (90\%) |
| Ontario | Age 65 if required by employer. Legislation to end restriction currently being considered. | 1\% (90\%) |
| Quebec | None. | 4\% (87\%) |
| New Brunswick | Can be set under terms of a retirement or pension plan. Otherwise, employees obliged to retire may file a complaint under provincial human rights. legislation. | Less than 1\% (F) |
| Nova Scotia | Age 65 if required by employer; however, all employees must be treated equally. | Less than 1\% (85\%) |
| Prince Edward Island | None. | F |
| Newfoundland and Labrador | Can be set under terms of a retirement or pension plan. | Less than 1\% (80\%) |

Source: Human Resources and Skills Development Canada

## Part-time university faculty

Because of incomplete information on part-time faculty, summary results are provided from a previously published study where missing data were imputed using a specific regression procedure based on reported information (Omiecinski 2003). That study used the University and College Academic Staff Survey-Part-time staff. However, it was conducted only for the academic years 1990-91 to 1997-98. Information collected for each part-time teacher was similar to that collected for full-time faculty (see Data source and definitions).

Between 1990-91 and 1997-98, Canadian universities relied increasingly on part-time teaching staff, whose ranks increased 10\% from 25,700 to 28,200. Part-time faculty members made up $46 \%$ of all faculty members in 1997, up from 41\% seven years earlier.

In 1997-98, women accounted for a larger proportion of part-time ( $42 \%$ ) than full-time ( $26 \%$ ) faculty members. By discipline, the ratio of full-time men to women ranged from a low of about 2 to 1 in education to a high of 12 to 1 in engineering and the applied sciences. Among part-timers,
these ratios ranged from about 1 to 1 in fine and applied arts to about 5 to 1 in engineering and applied sciences. Full-time men outnumbered their female colleagues by about 9 to 1 in mathematics and the physical sciences, while the corresponding ratio for part-time faculty was 4 to 1 . Parttime men outnumbered women in all teaching fields except nursing.
Part-time faculty tend to be younger. In 1997, $37 \%$ were below the age of 40, compared with only $17 \%$ of full-time faculty. Similarly, only $30 \%$ of part-time faculty were 50 or older, versus $50 \%$ of those working full time. Women parttimers tended to be younger than their male counterparts$41 \%$ of women versus $34 \%$ of men were under 40.

In 1997, full-time faculty members had higher levels of education than their part-time colleagues: $82 \%$ held a doctorate and 15\% a master's compared with $42 \%$ and $38 \%$ of part-timers. Male part-time faculty members also had higher levels of education than their female colleagues: $50 \%$ had a doctorate compared with only $29 \%$ of women.

## Perspectives

## - Notes

1 Although women have long been the majority in the teaching professions, their share diminishes drastically at successively higher levels of instruction (Lee 1993). In 2000, women made up $61 \%$ of all full-time educators. However, $80 \%$ of elementary school and kindergarten teachers were women, compared with $50 \%$ of secondary school teachers, $45 \%$ of college and vocational instructors, and only $29 \%$ of university professors.

2 Donaldson and Emes (2000) argue that women's participation rates within academic ranks and their frequency of administrative appointments are also ways in which women can gain the authority necessary to effect change-change being the promotion and maintenance of gender equity and sensitivity in academic institutions and the wider community.

3 It has been suggested that the decline in male professors may be caused partly by some men with doctorates choosing the more attractive financial option of working for private industry or as independent consultants as opposed to university teaching. In 2000-01, for example, $22 \%$ of men with doctorates were professionals in natural and applied science occupations, up from $15 \%$ in 1990-91; by contrast, $29 \%$ were university professors in 2000-01, down from $31 \%$ in 1990-91. Private sector options may, however, be less stable and involve travel and long hours, making them less attractive to women with similar academic qualifications.

Nevertheless, the percentage of women with doctorates working in the natural and applied science professions also increased during this period (from $8 \%$ to $11 \%$ ).

4 For reasons of data availability, the focus of this study is on full-time university faculty only. See Part-time university faculty for a discussion of this group.

5 Within this time frame, every province saw a reduction in the number of male faculty members and an increase in both the number and proportion of women. Prince Edward Island, British Columbia, Alberta, Quebec and Saskatchewan, however, reported increases in the overall number of full-time university faculty from 1990-91 to 2002-03.

6 New appointments refer to a specific university. These individuals may or may not have held a position at another university.

7 In 2001, the median age of the core working-age population (20 to 64) was 41.3 years, up from 38.1 years a decade earlier. This represented the biggest 10 -year increase since 1921.

8 Tenure grants professors the right not to be fired without cause after an initial probationary period-the justification being that this provides academic freedom by preventing the firing of an individual for openly disagreeing with authorities or popular opinion. However, opponents of tenure charge that it also removes incentives for
productivity. In most cases, tenure is not awarded upon hiring. Rather, a position is designated as eligible for tenure or 'tenure-track.' The criteria for promotion involve a combination of research, teaching and community service (that is, providing expert advice), as well as intellectual and professional development. The weight given to each component varies among faculties, departments and disciplines. Typically, a candidate will be employed for about five years before a decision is taken on tenure, but this practice also varies from university to university.

9 Information on tenure status is not available for staff in Quebec universities and is not included in these calculations.

10 Faculty members in some disciplines are less likely to have obtained a doctorate. For example, those in engineering and computer science may have obtained, at most, a master's degree in engineering, science or a related discipline; those in medicine and nursing, an MD (medical doctor) or RN (registered nurse); social work, an MSW (Master of Social Work); commerce and management, an MBA (Master of Business Administration); law, an LLM (Master of Laws).

11 Donaldson and Emes found that women academics collaborate more frequently than their male colleagues, and are much less likely to be single or first authors than one of several contributing authors. This assessment of research contribution was based on an analysis of articles published and books reviewed by the Canadian Journal of Higher Education between 1987 and 1997 (32 issues).

12 The female-to-male earnings ratio for full-year, full-time workers stood at $71 \%$ in 2001 . However, women working full time tend to work fewer hours per week than men- 38.7 hours versus 42.5 hours in 2001. Over the course of a year, this difference can amount to as much as five weeks of work. Accounting for the difference reduces the earnings gap (Galarneau and Earl 1999). The female-to-male earnings ratio for doctorate holders is also an important comparative indicator, given the link between earnings and education. In 2000, this ratio stood at $79 \%$, indicating that a higher education helps close the differential. Earnings or wage gaps in the strictest sense refer to what can be explained by sex alone, after all other contributing factors have been accounted for using a multivariate analysis. Such an analysis was not performed for this study. For further discussion, see Drolet (2001).

13 The most lucrative of these positions are known as 'Tier 1 Chairs,' and are awarded to outstanding researchers acknowledged by their peers as world leaders in their field. For each Tier 1 Chair, the university receives $\$ 200,000$ annually for seven years. As of November 2004, women accounted for a minority ( $17 \%$ ) of these positions. Tier 2 Chairs are granted to exceptional emerging researchers, who are acknowledged by their peers as having the potential to become leaders in
their field. They are worth $\$ 100,000$ annually over five years, and to date only $22 \%$ have been awarded to women. For more information on the Canada Research Chairs program, see their Web site at www.chairs.gc.ca/web/program/ index_e.asp.

14 Universities are the leading employment destination of persons with doctorates. Indeed, in 2000-01, about one in three doctorate holders was a university professor; this held true for both men and women. Teaching assistants, college and vocational instructors, and secondary and elementary teachers accounted for another $10 \%$. Other occupations where people with doctorates are also concentrated include professionals in natural and applied sciences (for example, chemists, biologists, computer scientists) (19\%); senior managers ( $11 \%$ ); health professionals (for example, physicians) ( $6 \%$ ); policy and program officers, researchers and consultants ( $5 \%$ ); and psychologists ( $4 \%$ ). Differences between men and women were observed in some of these occupations. In particular, psychology is a more popular option among women with doctorates, while professional occupations in the natural and applied sciences are more typical of men.

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## The labour market in 2004

Labour force status of the population


Source: Labour Force Survey, annual averages

## Large changes for older workers

The population aged 15 and over expanded 1.3\% between 2003 and 2004. Labour force growth was marginally greater, while the rate for those not in the labour force was slightly smaller.
The overall employment growth of $1.8 \%$ masks a larger increase in full-time job creation ( $2.4 \%$ ) since the number of part-time jobs fell. The average number of unemployed fell by $4.3 \%$.
For those not in the labour force, all of the increase was among those who did not want to work. The discouraged worker component-those who want work but despair of finding it-fell by $16.2 \%$.

The employment rate of men and women aged 55 and over has increased almost $20 \%$ since December 2001.

Employment rate index, December 2000=100


Source: Labour Force Survey, seasonally adjusted

|  | December level |  |  | December-to-December change |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2000 | 2003 | 2004 | $\begin{array}{r} 2000 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2003 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2000 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2003 \text { to } \\ 2004 \end{array}$ |
|  | '000 |  |  | '000 |  | \% |  |
| Population 15+ | 24,246.3 | 25,242.4 | 25,596.8 | 1,350.5 | 354.4 | 5.6 | 1.4 |
| Youths 15-24 | 4,094.4 | 4,216.4 | 4,255.7 | 161.3 | 39.3 | 3.9 | 0.9 |
| Men 25-54 | 6,862.7 | 6,975.9 | 7,018.6 | 155.9 | 42.7 | 2.3 | 0.6 |
| Women 25-54 | 6,882.0 | 6,988.7 | 7,039.9 | 157.9 | 51.2 | 2.3 | 0.7 |
| Both sexes 55+ | 6,407.2 | 7,061.4 | 7,282.6 | 875.4 | 221.2 | 13.7 | 3.1 |
| Employment 15+ | 14,919.3 | 15,836.8 | 16,063.1 | 1,143.8 | 226.3 | 7.7 | 1.4 |
| Youths 15-24 | 2,351.5 | 2,451.5 | 2,484.9 | 133.4 | 33.4 | 5.7 | 1.4 |
| Men 25-54 | 5,886.2 | 5,989.7 | 6,035.4 | 149.2 | 45.7 | 2.5 | 0.8 |
| Women 25-54 | 5,107.9 | 5,356.7 | 5,396.5 | 288.6 | 39.8 | 5.7 | 0.7 |
| Both sexes 55+ | 1,573.7 | 2,038.9 | 2,146.3 | 572.6 | 107.4 | 36.4 | 5.3 |
| Unemployment 15+ | 1,082.7 | 1,255.2 | 1,216.9 | 134.2 | -38.3 | 12.4 | -3.1 |
| Youths 15-24 | 330.7 | 394.7 | 360.5 | 29.8 | -34.2 | 9.0 | -8.7 |
| Men 25-54 | 361.7 | 388.5 | 392.2 | 30.5 | 3.7 | 8.4 | 1.0 |
| Women 25-54 | 318.0 | 352.9 | 339.7 | 21.7 | -13.2 | 6.8 | -3.7 |
| Both sexes 55+ | 72.2 | 119.0 | 124.5 | 52.3 | 5.5 | 72.4 | 4.6 |

Source: Labour Force Survey, seasonally adjusted

The aging of the baby boomers is reflected in the 3.1\% growth in the population 55 and over. However, both employment ( $5.3 \%$ ) and unemployment ( $4.6 \%$ ) outpaced population growth in this group.

Unemployment for youths and adult women declined appreciably even as their population and employment continued to grow. Prime-aged men ( 25 to 54 ) were the only ones for whom unemployment outpaced employment.

Unemployment rates down, employment rates up

The effect of larger cohorts with relatively high participation and employment rates reaching age 55 is pushing the employment rate among older Canadians steadily upwards (4.9 percentage points since 2000).

Between December 2003 and December 2004, the declining numbers of unemployed youth and primeaged women lowered their unemployment ratesfrom $13.9 \%$ to $12.7 \%$ for youth and from $6.2 \%$ to $5.9 \%$ for women.

|  | December level |  |  | December-to-December change |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2000 | 2003 | 2004 | 2000 to 2004 | 2003 to 2004 |
|  |  | \% |  | \%-point |  |
| Unemployment rate 15+ | 6.8 | 7.3 | 7.0 | 0.2 | -0.3 |
| Youths 15-24 | 12.3 | 13.9 | 12.7 | 0.4 | -1.2 |
| Men 25-54 | 5.8 | 6.1 | 6.1 | 0.3 | 0.0 |
| Women 25-54 | 5.9 | 6.2 | 5.9 | 0.0 | -0.3 |
| Both sexes 55+ | 4.4 | 5.5 | 5.5 | 1.1 | 0.0 |
| Participation rate 15+ | 66.0 | 67.7 | 67.5 | 1.5 | -0.2 |
| Youths 15-24 | 65.5 | 67.5 | 66.9 | 1.4 | -0.6 |
| Men 25-54 | 91.0 | 91.4 | 91.6 | 0.6 | 0.2 |
| Women 25-54 | 78.8 | 81.7 | 81.5 | 2.7 | -0.2 |
| Both sexes 55+ | 25.7 | 30.6 | 31.2 | 5.5 | 0.6 |
| Employment rate 15+ | 61.5 | 62.7 | 62.8 | 1.3 | 0.1 |
| Youths 15-24 | 57.4 | 58.1 | 58.4 | 1.0 | 0.3 |
| Men 25-54 | 85.8 | 85.9 | 86.0 | 0.2 | 0.1 |
| Women 25-54 | 74.2 | 76.6 | 76.7 | 2.5 | 0.1 |
| Both sexes 55+ | 24.6 | 28.9 | 29.5 | 4.9 | 0.6 |

Source: Labour Force Survey, seasonally adjusted

Although the employment rate was up at least marginally for all groups, the participation rate declined for youths and prime-aged women.


Source: Labour Force Survey, seasonally adjusted

Full-time employment improves


Source: Labour Force Survey, seasonally adjusted


Source: Labour Force Survey, seasonally adjusted
Public-sector jobs (2.5\%) grew at nearly double the pace of private-sector jobs ( $1.3 \%$ ) over the course of 2004. Self-employment continued to lag, with gains of just $0.6 \%$.

|  | Employees |  | Selfemployed |
| :---: | :---: | :---: | :---: |
| employment | Public | Private |  |
|  | '000 |  |  |
| December level |  |  |  |
| 2000 14,919.3 | 2,834.7 | 9,741.1 | 2,343.5 |
| 2003 15,836.8 | 3,022.2 | 10,375.8 | 2,438.8 |
| 2004 16,063.1 | 3,098.7 | 10,511.0 | 2,453.4 |
| Absolute change |  |  |  |
| 2000 to 2004 1,143.8 | 264.0 | 769.9 | 109.9 |
| 2003 to 2004226.3 | 76.5 | 135.2 | 14.6 |
|  | \% |  |  |
| Percentage change |  |  |  |
| 2000 to 20047.7 | 9.3 | 7.9 | 4.7 |
| 2003 to 20041.4 | 2.5 | 1.3 | 0.6 |

Construction continues to be strong

## Employment index





December 2000=100




Source: Labour Force Survey, seasonally adjusted

The strength in construction employment over the past several years continued in 2004 with an increase of $8.0 \%$, reflecting robust activity related to building permits and housing starts as well as low interest rates.

Health care and social assistance; and business, building and other support services had been strong sources of job creation from 2000 to 2003 , but levelled off during 2004.

## Most industries gained in 2004

Construction also led the way in terms of number of additional jobs with 74,000. Finance, insurance, real estate and leasing followed with 60,500. Trade, and professional, scientific and technical industries
were also significant sources of new jobs in 2004. Transportation and warehousing, and other services each shed more than 20,000 jobs during the year.


[^3]
## Goods sector outperforms services

Mainly because of the strength in construction, the goods-producing sector outpaced the serviceproducing sector with an employment increase of $2.0 \%$ compared with $1.2 \%$. Forestry, fishing, mining, and oil and gas again contributed to job gains in the goodsproducing sector, with some offsetting job losses in utilities and agriculture.

In 2004, employment also increased in finance, insurance, real estate and leasing ( $6.5 \%$ ) and in professional, scientific and technical services (3.8\%). Slower growth was seen in trade ( $1.7 \%$ ) and in public administration, and accommodation and food (both $1.3 \%$ ).

|  | December level |  |  | December-to-December change |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2000 | 2003 | 2004 | $\begin{array}{r} 2000 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2003 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2000 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2003 \text { to } \\ 2004 \end{array}$ |
|  |  | '000 |  |  |  |  |  |
| All industries | 14,919.3 | 15,836.8 | 16,063.1 | 1,143.8 | 226.3 | 7.7 | 1.4 |
| Goods-producing | 3,838.7 | 3,943.5 | 4,023.9 | 185.2 | 80.4 | 4.8 | 2.0 |
| Agriculture | 349.1 | 330.2 | 321.7 | -27.4 | -8.5 | -7.8 | -2.6 |
| Forestry, fishing, mining, oil and gas | 273.1 | 283.4 | 301.2 | 28.1 | 17.8 | 10.3 | 6.3 |
| Utilities | 114.4 | 131.7 | 124.6 | 10.2 | -7.1 | 8.9 | -5.4 |
| Construction | 812.9 | 921.0 | 995.0 | 182.1 | 74.0 | 22.4 | 8.0 |
| Manufacturing | 2,289.2 | 2,277.2 | 2,281.5 | -7.7 | 4.3 | -0.3 | 0.2 |
| Service-producing | 11,080.6 | 11,893.3 | 12,039.2 | 958.6 | 145.9 | 8.7 | 1.2 |
| Trade | 2,342.0 | 2,481.3 | 2,524.2 | 182.2 | 42.9 | 7.8 | 1.7 |
| Transportation and warehousing | 785.4 | 811.1 | 786.6 | 1.2 | -24.5 | 0.2 | -3.0 |
| Finance, insurance, real estate and leasing | 881.7 | 923.9 | 984.4 | 102.7 | 60.5 | 11.6 | 6.5 |
| Professional, scientific and technical | I 980.7 | 991.9 | 1,029.8 | 49.1 | 37.9 | 5.0 | 3.8 |
| Business, building and other support | t 536.5 | 634.2 | 632.8 | 96.3 | -1.4 | 17.9 | -0.2 |
| Educational services | 956.9 | 1,046.1 | 1,056.7 | 99.8 | 10.6 | 10.4 | 1.0 |
| Health care and social assistance | 1,515.9 | 1,726.1 | 1,736.4 | 220.5 | 10.3 | 14.5 | 0.6 |
| Information, culture and recreation | 703.4 | 726.5 | 733.3 | 29.9 | 6.8 | 4.3 | 0.9 |
| Accommodation and food | 932.6 | 1,004.0 | 1,016.7 | 84.1 | 12.7 | 9.0 | 1.3 |
| Other services | 673.2 | 722.4 | 702.0 | 28.8 | -20.4 | 4.3 | -2.8 |
| Public administration | 772.2 | 825.8 | 836.2 | 64.0 | 10.4 | 8.3 | 1.3 |

Source: Labour Force Survey, seasonally adjusted

Health occupations led growth over five years


Source: Labour Force Survey, seasonally adjusted

Since 2000, health occupations have led the pack with a gain of $19.3 \%$ as of December 2004. Most other occupational groups are clustered just above or just
below the average gain of $7.7 \%$. Management was the only occupational category to lose jobs during this period.

Natural and applied sciences led job growth in 2004

Natural and applied science occupations added 96,000 jobs ( $9.6 \%$ ) in 2004, followed by sales and services with $77,000(2.0 \%)$. More moderate gains in terms of number were experienced in social science, education, government service and religion occupations, and in occupations unique to primary industry.

Blue-collar occupations were the main victims of job loss in 2004. Occupations unique to processing, manufacturing and utilities lost 24,000 jobs ( $-2.1 \%$ ), while 19,000 jobs disappeared for trades, transport and equipment operators. As for white-collar workers, there were 2,500 fewer management jobs in December 2004 than a year earlier.


[^4]
## Jobs added in all provinces

In 2004, most provinces had employment growth at or slightly above the national average of $1.4 \%$ : Prince Edward Island (2.5\%), Saskatchewan (2.2\%), Newfoundland and Labrador (1.8\%), New Brunswick (1.8\%), British Columbia (1.6\%), Manitoba (1.5\%) and Nova Scotia and Quebec ( $1.4 \%$ ). In terms of number, the most jobs were added in Ontario $(83,000)$, Quebec $(51,000)$, British Columbia $(32,000)$ and Alberta $(22,000)$.

Several provinces experienced appreciable declines in their unemployment rate in 2004: Newfoundland and Labrador ( -2.9 percentage points), British Columbia (-0.9), Quebec (-0.6), Saskatchewan (-0.3) and Alberta $(-0.3)$. The unemployment rate changed very little in the remaining provinces.

|  | December level |  |  | December-to-December change |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2000 | 2003 | 2004 | $\begin{array}{r} 2000 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2003 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2000 \text { to } \\ 2004 \end{array}$ | $\begin{array}{r} 2003 \text { to } \\ 2004 \end{array}$ |
| Employed | '000 |  |  | '000 |  | \% |  |
| Canada | 14,919.3 | 15,836.8 | 16,063.1 | 1,143.8 | 226.3 | 7.7 | 1.4 |
| Newfoundland and Labrador | 199.0 | 212.1 | 216.0 | 17.0 | 3.9 | 8.5 | 1.8 |
| Prince Edward Island | 63.2 | 67.0 | 68.7 | 5.5 | 1.7 | 8.7 | 2.5 |
| Nova Scotia | 415.0 | 437.2 | 443.4 | 28.4 | 6.2 | 6.8 | 1.4 |
| New Brunswick | 335.1 | 346.6 | 352.9 | 17.8 | 6.3 | 5.3 | 1.8 |
| Quebec | 3,421.1 | 3,652.6 | 3,703.9 | 282.8 | 51.3 | 8.3 | 1.4 |
| Ontario | 5,910.9 | 6,270.5 | 6,353.5 | 442.6 | 83.0 | 7.5 | 1.3 |
| Manitoba | 552.8 | 571.6 | 580.3 | 27.5 | 8.7 | 5.0 | 1.5 |
| Saskatchewan | 470.1 | 476.4 | 486.9 | 16.8 | 10.5 | 3.6 | 2.2 |
| Alberta | 1,607.5 | 1,745.9 | 1,768.1 | 160.6 | 22.2 | 10.0 | 1.3 |
| British Columbia | 1,944.7 | 2,057.1 | 2,089.5 | 144.8 | 32.4 | 7.4 | 1.6 |
| Unemployed |  |  |  |  |  |  |  |
| Canada | 1,082.7 | 1,255.2 | 1,216.9 | 134.2 | -38.3 | 12.4 | -3.1 |
| Newfoundland and Labrador | 40.4 | 44.4 | 36.2 | -4.2 | -8.2 | -10.4 | -18.5 |
| Prince Edward Island | 8.2 | 7.9 | 8.0 | -0.2 | 0.1 | -2.4 | 1.3 |
| Nova Scotia | 41.7 | 42.0 | 43.2 | 1.5 | 1.2 | 3.6 | 2.9 |
| New Brunswick | 36.7 | 36.5 | 36.5 | -0.2 | 0.0 | -0.5 | 0.0 |
| Quebec | 295.4 | 368.1 | 348.6 | 53.2 | -19.5 | 18.0 | -5.3 |
| Ontario | 377.3 | 453.6 | 465.5 | 88.2 | 11.9 | 23.4 | 2.6 |
| Manitoba | 28.8 | 30.0 | 30.8 | 2.0 | 0.8 | 6.9 | 2.7 |
| Saskatchewan | 25.2 | 28.1 | 27.1 | 1.9 | -1.0 | 7.5 | -3.6 |
| Alberta | 81.7 | 86.7 | 82.3 | 0.6 | -4.4 | 0.7 | -5.1 |
| British Columbia | 147.3 | 157.9 | 138.8 | -8.5 | -19.1 | -5.8 | -12.1 |



Source: Labour Force Survey, seasonally adjusted

Usual hours of work

|  | Employed | Usual hours, main job |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1-14 | 15-29 | 30-34 | 35-39 | 40 | 41-49 | 50+ | $\begin{aligned} & \text { Total } \\ & \text { ('000) } \end{aligned}$ | Avg. |
|  |  |  |  |  | 000 |  |  |  | hour |  |
| Total | 15,949.7 | 916.8 | 2,032.7 | 1,102.6 | 3,436.3 | 5,950.3 | 1,012.4 | 1,498.5 | 581,533.9 | 36.5 |
| Industry |  |  |  |  |  |  |  |  |  |  |
| Agriculture | 324.1 | 26.4 | 30.8 | 19.5 | 14.2 | 71.1 | 25.6 | 136.6 | 14,848.3 | 45.8 |
| Forestry, fishing, mining, oil and gas | 285.7 | 5.3 | 7.9 | 6.7 | 20.6 | 133.6 | 33.2 | 78.4 | 12,996.8 | 45.5 |
| Utilities | 133.0 | 0.0 | 3.0 | 8.9 | 50.0 | 63.4 | 4.1 | 3.3 | 5,077.2 | 38.2 |
| Construction | 952.8 | 21.7 | 52.3 | 45.8 | 79.1 | 460.5 | 112.6 | 180.8 | 39,209.1 | 41.2 |
| Manufacturing | 2,297.0 | 27.9 | 59.0 | 49.5 | 294.0 | 1,538.9 | 224.0 | 103.7 | 91,121.1 | 39.7 |
| Trade | 2,503.6 | 199.5 | 485.6 | 200.8 | 333.0 | 926.3 | 163.7 | 194.6 | 85,819.1 | 34.3 |
| Transportation and warehousing | g 809.3 | 21.0 | 73.9 | 38.3 | 93.6 | 349.4 | 60.3 | 172.9 | 33,397.8 | 41.3 |
| Finance, insurance, real estate and leasing | 955.0 | 38.1 | 98.3 | 55.6 | 382.9 | 262.8 | 36.9 | 80.4 | 34,926.2 | 36.6 |
| Professional, scientific and technical | 1,010.1 | 46.4 | 95.5 | 52.5 | 256.3 | 373.4 | 53.0 | 133.0 | 38,286.1 | 37.9 |
| Business, building and other support | 630.1 | 48.9 | 92.0 | 51.3 | 112.2 | 243.0 | 40.0 | 42.6 | 21,905.8 | 34.8 |
| Educational services | 1,038.4 | 108.0 | 165.1 | 113.5 | 300.3 | 275.6 | 30.1 | 45.7 | 33,578.9 | 32.3 |
| Health care and social assistance | 1,736.7 | 93.6 | 344.4 | 197.0 | 609.3 | 329.4 | 58.2 | 104.8 | 58,787.4 | 33.9 |
| Information, culture and recreation | 732.7 | 73.6 | 102.3 | 53.5 | 191.5 | 232.4 | 26.9 | 52.4 | 24,872.6 | 33.9 |
| Accommodation and food | 1,006.8 | 126.5 | 279.5 | 121.0 | 109.4 | 248.8 | 43.4 | 78.2 | 31,402.1 | 31.2 |
| Other services | 705.1 | 64.6 | 101.8 | 55.3 | 100.7 | 243.6 | 60.6 | 78.6 | 24,947.5 | 35.4 |
| Public administration | 829.2 | 15.0 | 41.3 | 33.6 | 489.2 | 197.9 | 39.7 | 12.4 | 30,358.0 | 36.6 |
| Occupation |  |  |  |  |  |  |  |  |  |  |
| Management | 1,438.6 | 23.8 | 62.0 | 49.3 | 316.2 | 540.2 | 125.3 | 321.7 | 61,012.4 | 42.4 |
| Business, finance and administrative | 2,890.7 | 139.6 | 333.9 | 189.7 | 1,058.1 | 977.4 | 96.5 | 95.4 | 101,567.8 | 35.1 |
| Natural and applied sciences | 1,048.5 | 17.6 | 37.3 | 31.6 | 374.1 | 473.6 | 51.1 | 63.2 | 40,575.7 | 38.7 |
| Health | 933.1 | 40.4 | 200.9 | 111.0 | 307.6 | 178.6 | 37.7 | 56.8 | 31,745.5 | 34.0 |
| Social science, education, government service and religion | 1,251.4 | 83.8 | 180.1 | 119.2 | 383.2 | 327.0 | 48.3 | 109.8 | 43,431.7 | 34.7 |
| Art, culture, recreation and sport | rt 466.7 | 62.9 | 78.3 | 39.6 | 103.7 | 116.7 | 17.3 | 48.4 | 15,276.2 | 32.7 |
| Sales and service | 3,846.7 | 452.5 | 940.8 | 415.2 | 554.9 | 1,109.4 | 194.5 | 179.4 | 119,787.3 | 31.1 |
| Trades, transport and equipment operators | 2,378.2 | 44.1 | 123.8 | 92.0 | 207.6 | 1,266.5 | 268.0 | 376.2 | 97,817.6 | 41.1 |
| Unique to primary industry | 552.4 | 35.8 | 39.3 | 28.2 | 29.0 | 161.7 | 49.3 | 209.1 | 25,159.1 | 45.5 |
| Unique to processing, manufacturing and utilities | 1,143.5 | 16.2 | 36.3 | 26.8 | 101.8 | 799.4 | 124.4 | 38.6 | 45,160.7 | 39.5 |

Source: Labour Force Survey, annual averages

Workers in primary industries and occupations worked the most hours in 2004; those in sales and service jobs, the least.

Overtime hours

|  | Employees at work |  | Proportion of workers putting in overtime |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | 2004 |  |  | Change, 2003 to 2004 |  |  |
|  | Total | Overtime | Total | Paid | Unpaid | Total | Paid | Unpaid |
|  | '000 |  | \% |  |  | \%-point |  |  |
| Total | 12,415.6 | 2,666.4 | 21.5 | 10.5 | 11.7 | -0.2 | 0.1 | -0.4 |
| Industry |  |  |  |  |  |  |  |  |
| Agriculture | 111.2 | 13.2 | 11.9 | 6.7 | 4.9 | 0.6 | 0.6 | 0.1 |
| Forestry, fishing, mining, oil and gas | 217.6 | 66.1 | 30.4 | 21.2 | 10.2 | 0.6 | 1.7 | -1.4 |
| Utilities | 121.6 | 35.8 | 29.4 | 19.1 | 11.9 | -2.2 | 0.0 | -1.9 |
| Construction | 610.7 | 127.5 | 20.9 | 16.0 | 5.5 | 1.4 | 1.3 | 0.2 |
| Manufacturing | 2,047.3 | 569.8 | 27.8 | 19.8 | 8.6 | 1.1 | 1.1 | -0.1 |
| Trade | 2,060.7 | 314.3 | 15.3 | 7.1 | 8.6 | -0.2 | -0.3 | 0.0 |
| Transportation and warehousing | 608.2 | 141.5 | 23.3 | 15.3 | 8.6 | 0.3 | -0.7 | 0.9 |
| Finance, insurance, real estate and leasing | 741.9 | 166.9 | 22.5 | 6.1 | 17.1 | -1.1 | 0.4 | -1.6 |
| Professional, scientific and technical | 610.3 | 170.4 | 27.9 | 9.0 | 19.8 | -0.3 | 0.0 | -0.6 |
| Business, building and other support | 452.2 | 71.6 | 15.8 | 9.8 | 6.5 | -1.0 | -0.3 | -0.7 |
| Educational services | 840.5 | 288.2 | 34.3 | 2.8 | 32.0 | -1.5 | 0.2 | -1.6 |
| Health care and social assistance | 1,350.6 | 240.7 | 17.8 | 8.4 | 10.5 | -0.6 | -0.7 | 0.1 |
| Information, culture and recreation | 570.5 | 114.1 | 20.0 | 7.8 | 12.8 | -1.0 | -0.4 | -0.9 |
| Accommodation and food | 871.3 | 88.1 | 10.1 | 5.7 | 4.9 | -0.5 | -0.1 | -0.3 |
| Other services | 446.7 | 77.5 | 17.3 | 7.8 | 10.2 | -0.7 | 0.2 | -0.9 |
| Public administration | 754.2 | 180.8 | 24.0 | 9.5 | 15.9 | -1.0 | -0.3 | -1.0 |
| Occupation |  |  |  |  |  |  |  |  |
| Management | 878.2 | 365.2 | 41.6 | 4.3 | 38.2 | 0.0 | 0.1 | -0.1 |
| Business, finance and administrative | 2,435.7 | 448.1 | 18.4 | 7.6 | 11.4 | -0.1 | 0.4 | -0.6 |
| Natural and applied sciences | 850.9 | 243.0 | 28.6 | 12.0 | 17.8 | -1.8 | -0.6 | -1.5 |
| Health | 709.5 | 134.9 | 19.0 | 11.1 | 9.3 | -0.3 | -0.7 | 0.5 |
| Social science, education, government service and religion | 937.5 | 325.8 | 34.8 | 3.8 | 31.7 | -1.5 | -0.3 | -1.2 |
| Art, culture, recreation and sport | 270.6 | 53.3 | 19.7 | 7.3 | 13.4 | -2.4 | -1.1 | -1.3 |
| Sales and service | 3,235.4 | 372.7 | 11.5 | 6.3 | 5.7 | -0.7 | -0.2 | -0.6 |
| Trades, transport and equipment operators | 1,821.8 | 434.3 | 23.8 | 21.0 | 3.5 | 0.8 | 0.8 | 0.0 |
| Unique to primary industry | 255.6 | 46.0 | 18.0 | 13.0 | 4.5 | 1.5 | 0.6 | -0.3 |
| Unique to processing, manufacturing and utilities | 1,020.4 | 243.0 | 23.8 | 21.6 | 2.7 | 0.9 | 1.2 | -0.3 |

Source: Labour Force Survey, annual averages
Note: Some workers do both paid and unpaid overtime in the same week.

While overtime workers in goods production and transportation tended to be paid for their extra hours, most workers in the service sector were not paid for any extra hours.

## Part-time work

In 2004, the percentage of workers who involuntarily worked part time decreased slightly, while part-time work increased among those attending school.


Source: Labour Force Survey, annual averages

The bulk of part-time workers continue to be youth and adult women. Almost three-quarters of young part-timers work short hours voluntarily because of school; among adults, about $40 \%$ prefer part-time hours.

| 2004 | Total, parttime | Voluntary part-time |  |  |  |  |  | Involuntary part-time |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Own illness | Caring for children | Other personal | School | Preference | Other | Total | Looked for full-time | Did not look for full-time |
|  | '000 | \% |  |  |  |  |  |  |  |  |
| Total | 2,949.5 | 3.3 | 10.1 | 2.9 | 30.1 | 25.8 | 1.0 | 26.7 | 8.3 | 18.4 |
| Youths 15-24 | 1,098.7 | 0.7 | 1.0 | 0.7 | 72.6 | 5.2 | 0.3 | 19.5 | 7.4 | 12.1 |
| Men | 467.6 | 0.8 | 0.0 | 0.5 | 75.0 | 4.5 | 0.0 | 19.0 | 7.3 | 11.7 |
| Women | 631.1 | 0.6 | 1.7 | 0.8 | 70.9 | 5.7 | 0.4 | 19.9 | 7.5 | 12.4 |
| Adults 25+ | 1,850.8 | 4.9 | 15.5 | 4.2 | 4.8 | 38.1 | 1.4 | 31.0 | 8.9 | 22.1 |
| Men | 453.7 | 6.9 | 1.8 | 1.8 | 7.8 | 42.5 | 2.0 | 37.2 | 13.0 | 24.2 |
| Women | 1,397.1 | 4.3 | 20.0 | 5.0 | 3.8 | 36.7 | 1.2 | 28.9 | 7.5 | 21.4 |

Source: Labour Force Survey, annual averages

## Earnings

|  | Hourly wage in 2004 |  |  |  | Change from 2003 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { Both } \\ & \text { sexes } \end{aligned}$ | Men | Women | Ratio | $\begin{aligned} & \text { Both } \\ & \text { sexes } \end{aligned}$ | Men | Women | Ratio |
|  |  | \$ |  |  |  | \$ |  |  |
| 15+ | 18.50 | 20.15 | 16.79 | 0.83 | 0.45 | 0.40 | 0.52 | 0.01 |
| 15-24 | 10.49 | 11.01 | 9.96 | 0.90 | 0.13 | 0.14 | 0.12 | 0.00 |
| 25-54 | 20.18 | 21.98 | 18.33 | 0.83 | 0.51 | 0.47 | 0.57 | 0.01 |
| 55+ | 20.29 | 22.59 | 17.68 | 0.78 | 0.44 | 0.14 | 0.78 | 0.03 |

Source: Labour Force Survey, annual averages

Women working for a wage or salary earned 83 cents for every dollar earned by men in 2004, virtually unchanged from the year before. For those under 25, the ratio remained at 90 cents.

By industry, employees in utilities continued to make the most. Among the major occupational groups, managers remained the best paid, with weekly earnings almost triple those of the lowest group-sales and service workers.


Source: Labour Force Survey, annual averages

Unionization, moonlighting, temporary jobs

|  | 2004 |  |  | Change, 2003 to 2004 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total employees | Employees covered by union contract |  | Total employees | Employees covered by union contract |  |
|  |  |  | \% |  |  | \% pt. |
| Total | 13,497.9 | 4,286.6 | 31.8 | 232.7 | 2.0 | -0.5 |
| Public sector | 3,053.5 | 2,306.0 | 75.5 | 89.0 | 66.4 | 0.0 |
| Private sector | 10,444.4 | 1,980.5 | 19.0 | 143.6 | -64.5 | -0.9 |
| Agriculture | 116.8 | 6.2 | 5.3 | -0.6 | 1.6 | 1.4 |
| Forestry, fishing, mining, oil and gas | - 236.6 | 59.6 | 25.2 | 3.4 | -2.4 | -1.4 |
| Utilities | 132.8 | 95.2 | 71.7 | 2.5 | 2.2 | 0.3 |
| Construction | 642.1 | 207.4 | 32.3 | 14.2 | -7.6 | -1.9 |
| Manufacturing | 2,203.1 | 689.3 | 31.3 | 10.3 | -22.7 | -1.2 |
| Trade | 2,201.5 | 311.8 | 14.2 | 45.0 | -2.5 | -0.4 |
| Transportation and warehousing | 667.8 | 285.6 | 42.8 | 20.5 | 2.6 | -1.0 |
| Finance, insurance, real estate and leasing | 807.9 | 81.2 | 10.1 | 38.5 | 3.9 | 0.0 |
| Professional, scientific and technical services | 651.4 | 36.2 | 5.6 | 1.3 | 0.8 | 0.1 |
| Business, building and other support | $t \quad 484.1$ | 65.2 | 13.5 | 18.0 | -3.3 | -1.2 |
| Educational services | 990.9 | 721.0 | 72.8 | 11.7 | 11.3 | 0.3 |
| Health care and social assistance | 1,521.3 | 835.4 | 54.9 | 43.8 | 18.0 | -0.4 |
| Information, culture and recreation | 614.0 | 166.8 | 27.2 | 12.5 | 2.9 | -0.1 |
| Accommodation and food | 921.3 | 67.2 | 7.3 | 10.9 | -6.4 | -0.8 |
| Other services | 477.2 | 49.6 | 10.4 | -8.2 | -3.9 | -0.6 |
| Public administration | 829.1 | 609.0 | 73.5 | 9.1 | 7.5 | 0.1 |

Source: Labour Force Survey, annual averages

The number of unionized workers in the private sector fell by almost 65,000 in 2004; the largest drop in the unionization rate was in construction.

While the number of 'moonlighters' continues to increase, their share of total employment remained just over $5 \%$.

About $13 \%$ of all employees worked on a temporary basis. For youths, the proportion was more than twice as high.


[^5]

## ON LABOUR AND INCOME

## Fact-sheet on Taxfilers: 1972-2002

Overall proportion of population 15 and over and those who filed a tax return

$\mathrm{I}_{\mathrm{n}}$ n 1972, just over 10 million Canadians filed a tax return, with over three-quarters paying tax. Thirty years later, the number had reached almost 23 million with more than two-thirds paying tax. Although a higher proportion of the population were taxfilers in 2002, the growth in non-taxable returns outweighed the growth in taxable returns.

## Data sources

Tax data come from the Canada Revenue Agency, other data from Statistics Canada. For further information, contact Raj Chawla at (613) 951-6901 or raj.chawla@statcan.ca.

Canada's population is aging. Persons 15 and over accounted for $79.4 \%$ of the total population of 31.4 million in 2002 compared with $72.9 \%$ of the 23.4 million in 1976. The proportion of taxfilers grew even more-from $72.2 \%$ to $91.6 \%$. Part of the growth can be attributed to the steady increase since the late 1980s in those with little or no income filing a return to claim GST or other tax credits, and partly to the increase in those receiving employment, investment and pension income, and government transfers.

Returns filed by tax status


## Taxable returns filed by men and women



Nin 1972, but more were also heading lone-parent families or living by themselves as elderly. As expected, the number of women filing returns rose steadily. The discrepancy between men and women in filing taxable returns diminished over the 30 -year period, with women filing $46 \%$ of such returns in 2002 compared with $33 \%$ in 1972.

The aging of the population is also apparent in the shift in age distribution of those who filed taxable returns. Taxfilers were fairly young in 1972. About $46 \%$ were under 35 , and only $6 \%$ were 65 or more. By 2002, these proportions were $26 \%$ and $14 \%$. However, relatively more taxfilers were aged 45 to 54 in 2002 than in 1972; this is the age bracket when incomes tend to peak.

Taxable returns by age of taxfiler


Median age of those filing taxable returns


Thhe shift in the age distribution of taxfilers resulted in the median age for men rising from 37.6 to 45.0 while women's rose from 35.0 to 45.3 . The greater increase for women can be attributed to an increase in the proportion of women aged 45 to 64 filing taxable returns in 2002 ( $36 \%$ compared with $27 \%$ in 1972; the corresponding proportions for men were $36 \%$ and $30 \%$ ).

Assessed income and taxes paid


## Average assessed income per taxable and non-taxable return



Aportion of assessed income is not taxed because of deductions allowed by the tax system. In 1972, deductions amounted to $38 \%$ of assessed income; in $1987,35 \%$-leaving $62 \%$ and $65 \%$ subject to tax. In 1988, the Canadian tax system introduced the concept of non-refundable tax credits. This dropped the deduction portion and raised the taxable portion. Apart from a dip to $84 \%$ during the recession in the early 1990 s , the taxable portion stood close to $92 \%$ from 1988 to 2002. In other words, the switch to nonrefundable tax credits left much more of assessed income subject to tax.
Over the 1988 to 2002 period, non-refundable tax credits hovered between $4 \%$ and $5 \%$ of total assessed income.

The average assessed income (in 1992 dollars) per taxable return rose from $\$ 29,900$ in 1972 to $\$ 37,700$ in 2002; for non-taxable returns, it climbed from $\$ 5,600$ to $\$ 6,500$. The widening gap in average incomes indicates a rise in income inequality.

The average assessed income per non-taxable return has been more or less constant since 1995, whereas for taxable returns it showed more fluctuation, reflecting swings in the economy and labour market as well as the demographics of taxfilers.

## Assessed income* subject to deductions and tax



[^6]
## Income tax paid as a proportion of taxable assessed income*



* Taxable returns

Ataxable return rose from $\$ 4,700$ to $\$ 5,800$ between 1972 and 1987 and from $\$ 6,200$ to $\$ 6,700$ between 1988 and 2002. The switch from eligible deductions to non-refundable tax credits resulted in an increase between 1987 and 1988 of $7 \%$ in average tax paid. Canadians with taxable returns paid $25 \%$ of their assessed income as tax in 1972 compared with $28 \%$ in 1987. However, with the switch in the system, the ratio of tax to taxable assessed income dropped significantly because of the relatively large denominator. From 1988 onwards, a different trend emerged as the incidence of taxation increased from 1988 to 1990, then from 1992 to 1997, and so on. After 2000, however, the incidence dropped steadily-attributable to tax deductions and other measures to reduce the tax burden, introduced by both the federal and provincial governments.

Not only did the number of taxfilers increase but their average age also climbed between 1982 and 2002. And at the same time, the size and mix of the economy and the purchasing power of the dollar changed. For instance, $65.6 \%$ of the employed were in the service sector in 1972 compared with $74.4 \%$ in 2002; over the same period, goods and services worth $\$ 1.00$ in 1972 jumped to $\$ 4.56$ in 2002.

In 1972, a little over three-quarters ( $77.4 \%$ ) of filers of taxable returns had incomes under $\$ 10,000$ (in current dollars), and only $0.3 \%$ had $\$ 50,000$ or more; by 2002 , the respective proportions were $3.0 \%$ and $26.3 \%$. The shift in income distribution is clearly evident in the declining proportion of filers at the lower end and the expanding share at the upper end. However,

Taxable returns by total income

$\$ 10,000$ in 1972 would approximate $\$ 50,000$ by 2002 , a level accounting for $73.7 \%$ of all filers of taxable returns in that year. Over the 30 years, after adjusting for inflation, the proportion of filers at the lower end of the income scale changed very little (less than 4 percentage points).

Federal and provincial shares of income tax from persons


Both federal and provincial governments can determine marginal tax rates, impose surtaxes, and set deductions and non-refundable tax credits. These may vary from province to province. Of total income tax from persons in 1972, $69 \%$ was federal and $31 \%$ provincial; 30 years later, the respective proportions were $62 \%$ and $38 \%$. The maximum provincial share reached $45 \%$ in 1978 and stayed between $42 \%$ and $36 \%$ from 1979 to 2002 .

Total revenue (in current dollars) of the federal government rose from $\$ 18.8$ billion in 1972 to $\$ 191.1$ billion in 2002. Of this, personal income taxes accounted for $43 \%$ in 1972 compared with $45 \%$ in 2002. The lowest share, $36 \%$, was hit in 1981 (during a severe recession); the highest, $49 \%$, in 1990 (during a somewhat longer but less severe recession). Other major sources of federal revenue include taxes on production and imports (or consumption tax), and premiums for social insurance (such as Employment Insurance, CPP, and other pensions). Collectively these accounted for $74 \%$ of total federal revenue in 1972 compared with $78 \%$ in 2002.

Sources of federal government revenue


* Includes investment income, sales, taxes from non-residents and other transfers from persons.


## Sources of provincial government revenue



Total provincial government revenues (in current dollars) jumped from $\$ 19.3$ billion in 1972 to $\$ 229.5$ billion in 2002. Besides income tax and sales taxes, transfers from the federal government are another major source of provincial revenue. Of total provincial revenue in 1972, personal income taxes constituted only $19 \%$ compared with $28 \%$ from sales taxes and another $24 \%$ from federal transfers. By 2002, the respective proportions were $23 \%, 32 \%$ and $15 \%$.

Income tax from persons as a proportion of federal and provincial government expenditures


Fincreased in line with the need to finance public services. Since income taxes are the major source of federal government revenue, the proportion of such taxes to expenditures was much larger than in the provinces. At the federal level, it moved from $41 \%$ to $47 \%$ and at the provincial level, from $20 \%$ to $23 \%$. The proportion peaked at $50 \%$ for the federal government in 2000 compared with $25 \%$ for provincial governments in 1999.

Federal and provincial income tax as a proportion of GDP and expenditures


Over time, as the population increased, so did government expenditures, income taxes, and the size of the overall economy measured in terms of gross domestic product (GDP). About $30.6 \%$ of federal and provincial expenditures on goods and services were financed by income taxes in 1972 compared with $33.2 \%$ in 2002 (the proportion peaked at $36.3 \%$ in 2000 -the year with the lowest unemployment rate). On the other hand, the ratio of income taxes to GDP crept up from $10.6 \%$ to $12.0 \%$, reaching a maximum of $14.2 \%$ in 1991 (a recessionary period when GDP slumped or lagged behind the growth in income taxes).


[^0]:    Source: University and College Academic Staff System, 2002-03

[^1]:    Source: University and College Academic Staff System

[^2]:    Source: University and College Academic Staff System

    * May not add to totals in other tables because of missing values for age.

[^3]:    Source: Labour Force Survey, seasonally adjusted

[^4]:    Source: Labour Force Survey, seasonally adjusted

[^5]:    Source: Labour Force Survey, seasonally adjusted

[^6]:    * Based on taxable returns.

