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AN OVERVIEW

# Chapter 15: The tertiary education workforce

The overall number of staff employed by tertiary education institutions remained virtually unchanged from 2006 to 2007 while staff numbers in private training establishments decreased for the second consecutive year.

A small decrease from 2006 to 2007 in the number of academic staff at tertiary education institutions was offset by an increase in the number of non-academic staff. Over the same period, in private training establishments the decrease in the number of academic staff was slightly larger than the fall in the number of non-academic staff.

In the three wānanga, the student numbers fell at a slightly faster rate than the reduction in the number of teaching staff, lowering the 2007 student to academic staff ratio to 34 to 1 compared to 36 to 1 in 2006. The student to academic staff ratio in universities and polytechnics remained virtually unchanged.

Total expenditure on personnel in public tertiary education institutions rose from 2006 to 2007, while personnel costs as a percentage of total operating expenditure was 57 percent in 2007, unchanged from 2006.

An analysis of the income information as collected by the 2006 Population and Dwellings Census revealed that the gender gap in the technical and higher education workforce is reducing at lower grades but increasing at higher grades and in leadership positions. An article on this income analysis of the tertiary education workforce is included later in this chapter.

## 2008 year

The School Plus initiative – aimed at ensuring that all young people undertake some form of formal education and training until age 18 years – is likely to increase demand in polytechnics, wānanga and private training establishments. At the same time, the effects of the 'birth blip' – those born between 1983 and 1990 – are now being felt in the tertiary education sector. These trends will keep demand for places in tertiary education organisations high and hence mean that there will be continuing pressure to retain academic staff or to look for ways of improving the productivity of staff.

In June 2008, the Institutes of Technology and Polytechnics of New Zealand announced that they were preparing a report comparing the polytechnic pay rates with those in the professions from which polytechnics draw their staff. At the same time, the Association of Staff in Tertiary Education was comparing polytechnic pay rates with school teachers' pay and with pay rates in Australia's vocational education sector.

Analytical tables: An associated set of tables on financing performance of tertiary education institutions; is available on the Education Counts website, Tables HRN1-14.

## TERTIARY EDUCATION WORKFORCE

The number of staff employed by tertiary education institutions remained stable in 2007, while it decreased from 2005 to 2006. Before this, staff numbers had risen for several years.

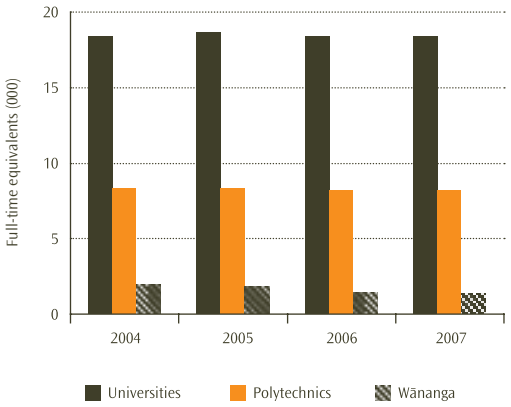
**Staff employed in 2007 (expressed in full-time equivalents):**

| | | |
|---|---|---|
| Tertiary education institutions | 28,000 | (down 0.1% on 2006) |
| Private training establishments[1] | 6,550 | (down 5.4% on 2006) |
| Universities | 18,400 | (up 0.3% on 2006) |
| Polytechnics | 8,170 | (down 0.6% on 2006) |
| Wānanga | 1,430 | (down 1.5% on 2006) |

***Note:*** Tertiary education institutions comprise 8 universities, 19 institutes of technology and polytechnics and 3 wānanga.

***Source:*** Annual reports of tertiary education institutions.

**Figure 15.1: Staff employed in tertiary education institutions**




## ACADEMIC AND NON-ACADEMIC STAFFING

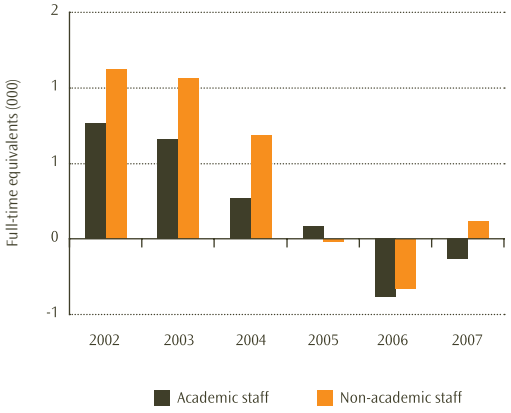
In 2007, the number of full-time equivalent academic staff employed in tertiary education institutions decreased for the second consecutive year. The non-academic full-time equivalent staff decreased from 2005 to 2006, while it increased slightly in 2007.

**Staff employed in 2007 (expressed in full-time equivalents):**

| | Academic | | Non-academic | |
|---|---|---|---|---|
| | 2007 | % change from 2006 | 2007 | % change from 2006 |
| Tertiary education institutions | 12,800 | -1.1 | 15,300 | 0.8 |
| Private training establishments | 3,660 | -5.7 | 2,890 | -4.9 |
| Universities | 7,760 | -1.2 | 10,700 | 1.4 |
| Polytechnics | 4,330 | -0.8 | 3,840 | -0.4 |
| Wānanga | 669 | -0.6 | 761 | -2.3 |

***Source:*** Annual reports of tertiary education institutions.

**Figure 15.2: Annual change in the number of academic and non-academic staff employed in tertiary education institutions**




## STUDENTS TO STAFF RATIOS

A key indicator of performance in tertiary education is the ratio of students to staff.

**The student to academic staff ratio in 2007:**

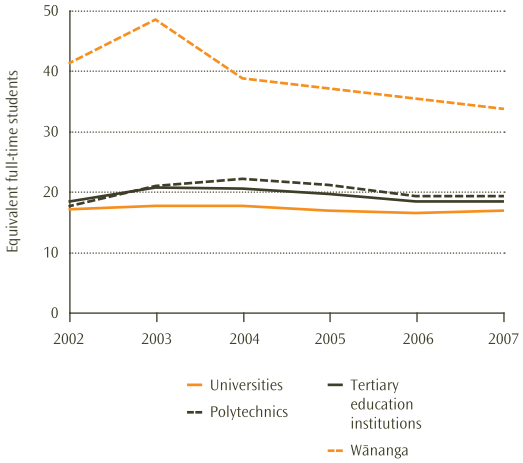
| | | |
|---|---|---|
| Tertiary education institutions | 18.3 | (18.2 in 2002) |
| Universities | 16.6 | (16.8 In 2002) |
| Polytechnics | 19.0 | (17.4 In 2002) |
| Wānanga | 33.6 | (41.0 In 2002) |

***Notes:***

1. These ratios have been calculated using the equivalent full-time student measure and the full-time equivalent academic staff count. In interpreting these ratios caution needs to be exercised as the allocation of staff to categories may not be consistently reported in the annual reports from year to year.
2. The ratio at the wānanga is significantly higher than at other types of tertiary education institutions because of the delivery of distance programmes.

***Source:*** Annual reports of tertiary education institutions.

**Figure 15.3: Average number of students per academic staff member**




1. Data for private training establishments is from the statistical collections provided to the Ministry of Education by tertiary education providers. Providers are included if they are registered with the New Zealand Qualifications Authority.

## UNIVERSITY ACADEMIC AND RESEARCH STAFF

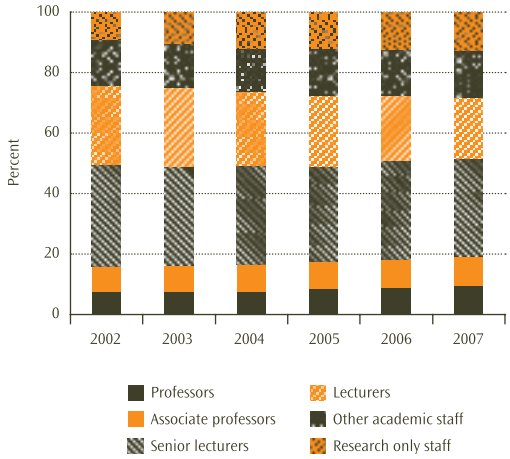
The proportion of professors and research only staff employed by universities has increased significantly over the last five years, while the proportion of lecturers has fallen significantly.

**The proportion of university academic staff by designation in 2007 (expressed in full-time equivalents):**

| | | |
|---|---|---|
| Professors | 10% | (7% in 2002) |
| Associate professors | 9% | (9% in 2002) |
| Senior lecturers | 33% | (34% in 2002) |
| Lecturers | 20% | (26% in 2002) |
| Other academic staff | 16% | (15% in 2002) |
| Research only staff | 13% | (9% in 2002) |

There were also 449 full-time equivalent research support staff employed in universities in 2007, up by 11 percent from 2002.

Figure 15.4: Distribution of university academic staff by designation




## GENDER DIFFERENCES

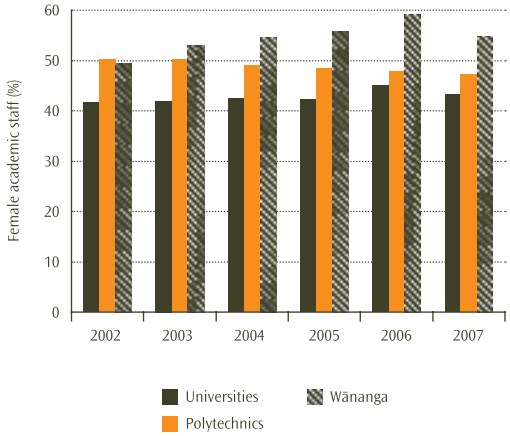
Over the last five years, the overall proportion of women employed by tertiary education institutions has been stable at 45 percent of the total full-time equivalent staff.

**The proportions of female academic staff by provider type in 2007 (expressed in full-time equivalents):**

| | | |
|---|---|---|
| Tertiary education institutions | 45% | (45% in 2002) |
| Universities | 43% | (42% in 2002) |
| Polytechnics | 47% | (50% in 2002) |
| Wānanga | 55% | (49% in 2002) |

Based on a headcount, the gender balance of the total public tertiary education workforce in 2007 was 58 percent in favour of female staff.

Figure 15.5: Proportion of female academic staff by provider type




## GENDER DIFFERENCES IN UNIVERSITIES

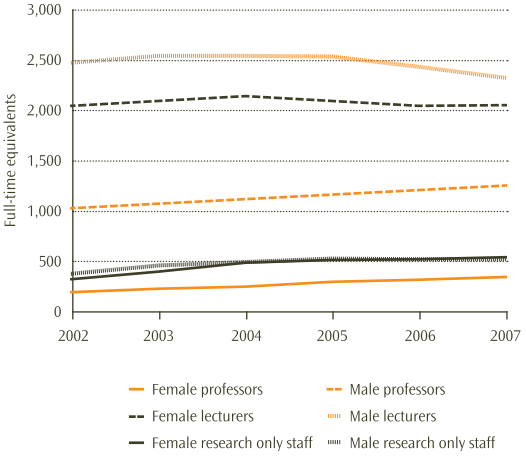
Female professors, lecturers and research only staff increased proportionately by 1 percentage point from 2006 to 2007. In 2007, there were, for the first time, more female than male research only staff. The proportion of male professors remained high in 2007 at 79 percent.

**The proportions of university academic staff by gender (expressed in full-time equivalents):**

| | 2002 | 2007 |
|---|---|---|
| Female professors/associate professors | 15% | 21% |
| Male professors/associate professors | 85% | 79% |
| Female senior lecturers/lecturers | 45% | 47% |
| Male senior lecturers/lecturers | 55% | 53% |
| Female research only staff | 46% | 51% |
| Male research only staff | 54% | 49% |

***Note:*** The figures used in the graph for professors include associate professors, and lecturers includes senior lecturers.

Figure 15.6: Selected university academic staff by gender



## PERSONNEL COSTS

Personnel costs for all public tertiary education institutions amounted to $2.06 billion in 2007. Personnel expenditure was 4.8 percent higher in 2007 than in 2006, when it totalled $1.97 billion.

**Personnel cost per full-time equivalent academic staff member:**

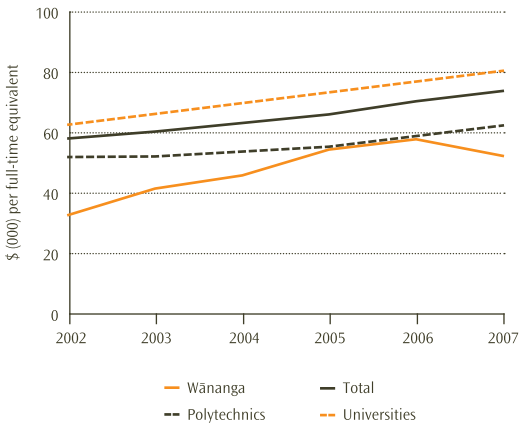
| | $ (000) nominal | | | | | Inflation-adjusted | |
|---|---|---|---|---|---|---|---|
| | 2002 | 2006 | 2007 | % change 02-07 | % change 06-07 | % change 02-07 | % change 06-07 |
| Universities | 62.3 | 76.2 | 80.2 | 28.7 | 5.2 | 13.4 | 2.7 |
| Polytechnics | 51.5 | 58.3 | 62.1 | 20.5 | 6.4 | 6.1 | 4.0 |
| Wānanga | 32.4 | 57.5 | 52.0 | 60.4 | -9.7 | 41.4 | -11.7 |
| Total | 57.7 | 70.0 | 73.5 | 27.3 | 4.9 | 12.2 | 2.5 |

***Notes:***

1. Due to different cost structures in each sub-sector, caution should be exercised when comparing provider types.
2. The deflator used is the Consumers Price Index (all groups) and the base period is the year 2007.

***Source:*** Annual reports of tertiary education institutions.

**Figure 15.7: Personnel expenditure per academic staff member**



# The tertiary education workforce: a census income analysis by gender and ethnic group

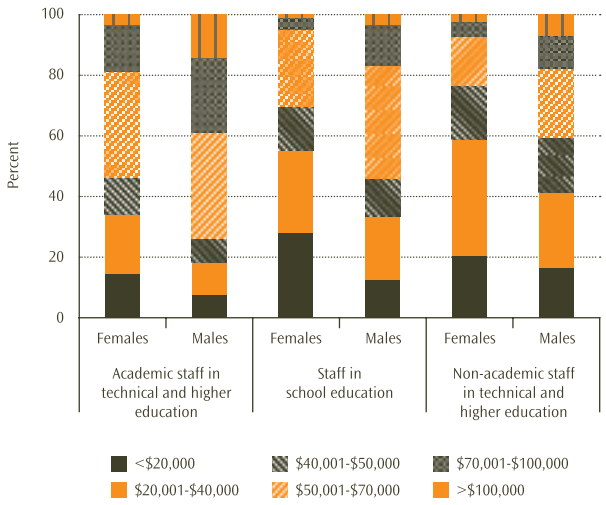
New Zealand's tertiary education sector has been undergoing considerable change – leading to much review and restructuring. These changes have affected lecturers, tutors, managers, administrators and other support staff at tertiary education providers. In recent years, the national and international education labour markets have also become more competitive.

The tertiary education workforce has been working together with other sector stakeholders to address the trends facing them. In the case of the universities, a tripartite forum was set up in 2005 comprising the Minister for Tertiary Education, the vice-chancellors, the Association of University Staff, the Association of Staff in Tertiary Education, and the Public Service Association.

The trends facing the sector include an ageing workforce, higher labour market participation by women, and rising community expectations of teaching and research quality.

The income distributions of the tertiary education workforce, as collected by the New Zealand population census, are considered here by gender and by ethnic group. Comparisons are made among those within the tertiary education sector and also with staff in the school sector and employees in all other industries. Figure 15.8, below, shows that academics – men and women in technical and higher education – had a higher proportion of their number in the top two income groups in 2006, compared with staff in schools and non-academic staff in technical and higher education.

**Figure 15.8: Annual income distributions of selected staff in the education sector (March 2006)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

## Key findings

- **The changes in the census gender-based income distributions between 2001 and 2006 suggest that, overall, the gap between women and men may be reducing in the lower levels of the technical and higher education workforce.**

  **Between census years, the reduction in the proportions of academic women earning less than $50,000 per year and non-academic women earning less than $40,000 was greater than those for men.**

- **In contrast, the gap between women and men may be increasing for the workforce in adult, community and other education, and also for employees in all other industries.**

  **Between census years, the reduction in the proportion of men earning less than $40,000 per year was greater than for women.**

- **More women in the technical and higher education workforce were represented in the top two income groups in 2006,[2] although the gap in the proportion of academic men and women widened by 1.5 percentage points between census years. The gap in the proportion of non-academic women and men widened in the top two income groups by 2.8 percentage points between census years. What we are seeing is the gender gap reducing at lower grades but increasing at higher grades and in leadership positions.**

- **The differences in the qualifications held by men and women do not entirely explain why some of the gender-based income differences have persisted. The census data confirmed that qualification differences are rapidly disappearing. More women are gaining qualifications, and higher-level qualifications.**

- **Do gender differences in relevant work experience lead to income gaps between men and women? Generally speaking, this seemed a less likely explanation of the widening income differences among the higher income groups in technical and higher education. For example, women now have more relevant work experience as they spend fewer years out of the work-force; and the transferability of skills acquired by people while out of the workforce is increasingly recognised. The widening of the gender gap at the higher grades is likely to be influenced by factors other than just qualifications and work experience.**

2. Annual incomes of $70,001 to $100,000 and more than $100,000.

**For example, even in the school sector, which has an even bigger pool of well-qualified and experienced women than the technical and higher education sector, the gap in the proportions of women and men in the top two income groups widened in 2006.**

- **Overall, the findings from the census income distributions in this study suggest that the gender gap has continued to exist between 2001 and 2006 at the broad level in tertiary, community, and school education and in all other industries. In part, the gender gap is due to the higher proportion of women working part-time.**

## The census income collection

The census collects information on the total personal annual incomes of individuals aged 15 years and over. Employees with multiple incomes are only included in tertiary education when this is specified as their main industry. This obscures some of the income earned in the sector. For example, the census included around 10,000 academic staff in technical and higher education in 2006, while the headcount from Ministry of Education data collections was 17,400 academic staff.[3] However, included in the latter figure were 7,310 part-time employees, many of whom were likely to work in more than one industry.

There was also an undercount in 2006 of the technical and higher education academic workforce in the higher income groups, limiting the income information. However, as there were fewer part-time staff employed in higher-level designations, other factors are the reason for the census undercount. For example, some staff may have sufficient income from other sources to be excluded from the tertiary education industry. Others may not have responded to the question or described it in ways that were misinterpreted in the census coding. In addition, different surveys put questions in different ways leading to further possibility of discrepancy. In 2006, the census count for technical and higher education comprised 2,560 female academics and 3,710 male academics in the top three income groups. The Ministry's headcount, including part-time staff, was higher at 6,070 female academics and 7,040 male academics.

In the case of the non-academic staff in technical and higher education, the census count was close to the headcount as collected by the Ministry of Education. As the census count takes place in March and the Ministry's collection is made at the end of July, some differences were expected.

The information in this article is based on the Australian and New Zealand Standard Industrial Classification 2006. The industries selected for this study are:

- **P810:** Technical and vocational education and training (which covers a large variety of courses and subjects such as computer and business management training) and higher education (which covers mainly undergraduate and postgraduate teaching)
- **P821:** Adult, community and other education (which covers sports and physical recreation instruction, arts education and adult, community and other education not elsewhere classified), and
- **P802:** School education (which covers primary education, secondary education, combined primary and secondary education, and special school education).

In this section 'other industries' refers to all other industries in New Zealand. Occupational groups such as education advisors and art, drama, dance and music teachers, as well as other private tutors and teachers, are included in the non-academic category in this report.

## Academic staff gender differences

In Figures 15.9 and 15.10, below, the incomes of the academic staff in technical and higher education have been charted for the 2006 and 2001 census years by gender, across five broad income groups. The census income distributions reveal some interesting trends. For example, the proportion of female academics who earned less than $50,000 per year fell by 13 percentage points between the census years, down to 46 percent, while those earning more than $70,000 rose by 12 percentage points. The proportion of male academics who earned less than $50,000 per year fell by 10 percentage points from 2001 to 2006, down to 26 percent, while the proportion earning more than $70,000 rose by 13 percentage points.

**Figure 15.9: Annual income distribution of academic staff in technical and higher education by gender (March 2006)**


3. This headcount is from the statistical collections provided to the Ministry of Education by tertiary education providers. Providers are included if they are registered with the New Zealand Qualifications Authority.

***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

**Figure 15.10: Annual income distribution of academic staff in technical and higher education by gender (March 2001)**


***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

While these changes in the income distributions have lowered the proportion of academics earning less than $50,000 per year, there were 20 percent more females than males in the three lowest income groups in 2006. One of the reasons for this difference is that more female academics worked part-time in 2006 – 52 percent, compared to 45 percent in 2001.[4] In comparison, only one-third of male academics worked part-time. Secondly, in 2006, more women than men performed roles such as assistant tutor, other teaching staff or combined teaching and research staff whose salaries were generally lower than those at lecturer level. Additionally, public tertiary education institutions employed considerably more staff in lower-level academic roles in 2006 compared with five years earlier. Sixty percent of these academics were women.

The increases in the number of academics in part-time work and in lower-level roles are likely to be contributing factors to the continued differences in the proportions of men and women in the lower income groups. Nevertheless, most academic work in higher and technical education is carried out by full-time academics.

The academics employed as lecturers, tutors, professors, readers, deans and heads of school comprised 76 percent of the academic workforce in 2006 – 46 percent were women and 54 percent were men.

**Academic leaders – one in four were women[5]**

From 2001 to 2006, the number of female academics employed in the role of professor, associate professor, dean and head of department increased considerably. Consequently, the ratio of women to men in the top academic positions increased from one in five in 2001 to one in four in 2006. However, the latest census revealed a lower ratio of one woman for every 4.6 men in the top income group. In 2006, the proportion of academic women who earned more than $100,000 per year was 3.2 percent, while the proportion of men in this income group was 14 percent. While this suggests that women are under-represented in this income group, there has been some movement; in 2001 women had a lower representation in the top income group. In 2001, the proportion of women academics who featured in the top income group was 1.4 percent, while for male academics this was 7.2 percent.

The gap in the proportion of academic men and women in the top two income groups has remained between census years, although the representation of women increased in these groups. In 2006, 19 percent of women and 39 percent of men earned more than $70,000. In 2001, 7.2 percent of women and 26 percent of men earned more than $70,000.

While there have been increases in the employment of women in academic leadership roles, the number of male professors in 2006 outnumbered female professors four to one. The recent increases in the employment of women in top academic positions were based on relatively small numbers of women in these positions in 2001 – up from a total of 286 women to 488 women in 2006. The comparable number of male academics in 2006 was 1,514, up 22 percent on 2001. The pool from which these people can be drawn is changing – more women now complete postgraduate qualifications.

**More female senior lecturers[5]**

The number of women in senior or principal lecturer positions increased from 2001 to 2006 by 22 percent to 1,640. Over the same period, the number of male senior lecturers fell by 5.6 percent to 2,120. Forty-four percent of senior lecturers were women in 2006, in terms of both the headcount and full-time equivalent staff. The census income distributions show that in 2001, 21 percent of those who earned between $70,001 and $100,000 per year were women. And, by 2006, women in this income group comprised 37 percent. Given that 44 percent of senior lecturers were women, this suggests that women are still under-represented in this income group, all other things being equal. The income distributions also show that the proportion of men who fall into this income group increased from 19 percent in 2001 to 25 percent in 2006. The proportion of women whose incomes lie in this income group increased significantly from 5.8 percent in 2001 to 16 percent in 2006.

4. The information on part-time staff and on the designations of staff is from the Ministry of Education's statistical collections.

5. This section includes headcounts, designations and equivalent full-time staff from the Ministry of Education's statistical collections.

### Genders balanced among lecturers and tutors [5]

Lecturers and tutors have been employed by public tertiary education institutions in similar proportions for over a decade. In 2006, slightly more women (3,940) were employed than men (3,406), although there was no significant difference in the full-time equivalent staff numbers between men and women.

According to a recent report on the salaries of academic staff in universities, the 2007/08 incomes of lecturers range from around $56,000 to $77,000.[6] The census showed males and females distributed in even proportions, in 2006, in the income group ranging from $50,001 to $70,000 per year. About one-third of academics in technical and higher education appeared to be salaried at this level. Lecturers and tutors comprised the largest single group in terms of the full-time equivalent academic staff with many of them working part-time. While lower salary levels will apply to younger, inexperienced lecturers, there will also be experienced lecturers whose salaries may fall into a higher income group, irrespective of their designation. The incomes of those academics who work part-time will be proportionately less causing some to be included in the lower income groups.

From 2001 to 2006, the proportion of female academics earning between $50,001 and $70,000 increased by 1 percentage point to 35 percent. Over the same period, male academics whose incomes came within this income group decreased, by 2.9 percentage points to 35 percent. The increase in the equivalent full-time staff from 2001 to 2006 was 5.6 percent for female lecturers and 8.7 percent for male lecturers. In terms of the changes in the number of staff employed from 2001 to 2006, the full-time staff increased by 9.3 percent for men and by 3.5 percent for women. Between 2001 and 2006, the number of male and female part-time lecturers increased by more than 20 percent. There were 1,920 female part-time lecturers in 2006, compared to 992 males. Comparing the 2006 census counts with the headcount from the Ministry's data collection suggests that both male and female lecturers appear under-represented in the income group of $50,001 to $70,000 per year.

In 2006, 75 percent of the female academic workforce was employed as a lecturer or in a designation below lecturer level. The 2006 census income distributions showed that a greater proportion of academic women, 81 percent, were paid $70,000 or less per year in 2006. Similarly, 61 percent of men were paid less than $70,000 in 2006, while the proportion of male academics employed as lecturers or in designations below lecturer level was only 58 percent. Without information on the hours worked by part-time staff and the salaries paid, it is not possible to determine whether or not both men and women appear to be over-represented in the lower income groups.

The partial picture provided by the census raises more questions on income disparity between men and women than the available information is able to answer. Some of the other factors influencing the incomes of staff – the qualifications held by the staff, performance pay and inflation adjustments – are briefly commented on in the following section.

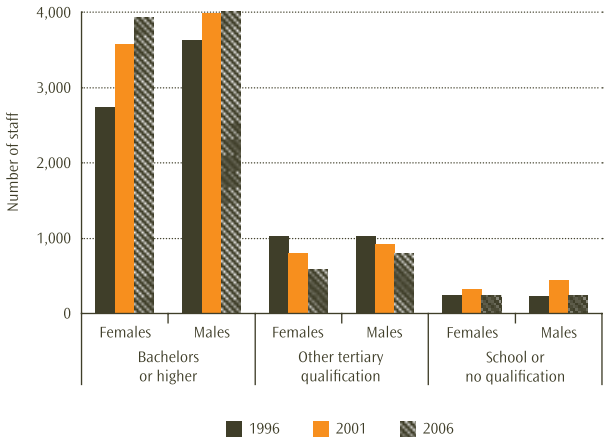
6. Deloitte (2008).

### Slight edge for men in higher-level qualifications

The census does provide insight into whether there are significant differences in the qualifications held by women and men. Less is known about the extent to which there are important differences in the experiences of men and women that are relevant to their paid employment. A case study on Massey University (Doyle et al, 2005) suggests that while there are differences in the academic career experience and work of men and women, many of these differences are relatively small. The study nevertheless suggests some strategies to improve the representation of women in senior academic ranks and also women's satisfaction with the promotion process.

Figure 15.11 demonstrates that there was an almost even number of men and women in the technical and higher education academic workforce in 2006 who held a bachelors or higher-level qualification. Despite this apparent equality, male academics in 2006 had an edge over women in the qualifications stakes as 80 percent of male academics held a postgraduate qualification, compared to 70 percent of women.

**Figure 15.11: Academic staff in technical and higher education by qualification level and gender (March 2006)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

Other factors that have influenced the incomes of the workforce over the last five years include salary increases based on performance. Also, financial data from the annual reports of public tertiary institutions indicates that the incomes of tertiary education staff increased from 2001 to 2006. Over this period, the personnel costs per full-time equivalent staff member increased by around 11 percent in inflation-adjusted terms. The extent to which staff are likely to have moved into the next income group as a result of performance-based salary increases on the basis of experience, or performance or inflation adjustments, or both, is not able to be determined from the census data.

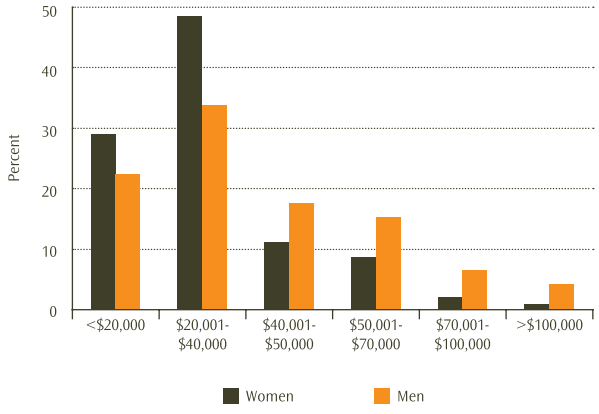
## Non-academic staff gender differences

In 2001 and 2006, the census income distributions for non-academic staff in technical and higher education had noticeably more men and women in the lower income groups (Figures 15.12 and 15.13). While more women and men had incomes ranging from $40,001 through to $70,000 per year in 2006 than in 2001, women appeared to be under-represented in the higher income groups.

**Figure 15.12: Annual income distribution of non-academic staff in technical and higher education by gender (March 2006)**


***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

**Figure 15.13: Annual income distribution of non-academic staff in technical and higher education by gender (March 2001)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

### Non-academic leaders – one in three were women

Vice-chancellors, chief executives, senior managers, directors and similar-level positions accounted for 44 percent of the full-time executive staff in technical and higher education in 2006. One-third of these were women.[7]

Figure 15.12, shows that 6.9 percent of non-academic male employees in technical and higher education were in the top income group in 2006, compared to 2.2 percent of women. Some movement has, however, taken place since 2001 when less than 1 percent of non-academic women, and 4.3 percent of men, earned more than $100,000 per year. An even greater improvement in the ratio of women to men in the top income group could have been expected as the female executive staff increased much more strongly between the two census years. Also, the recent increases in the number of women in the top income group were based on a very small number in 2001. There were three times as many men in the top income group in 2001 and this number doubled between 2001 and 2006. This suggests that, on balance, men did better between the census years than women in the top income group.

In the top two income groups, the differences between men and women in the non-academic workforce widened between census years even though the representation of women increased in these groups. In 2006, 7.1 percent of women and 18 percent of men earned more than $70,001. In 2001, the comparable figures were 2.9 percent of women and 11 percent of men.

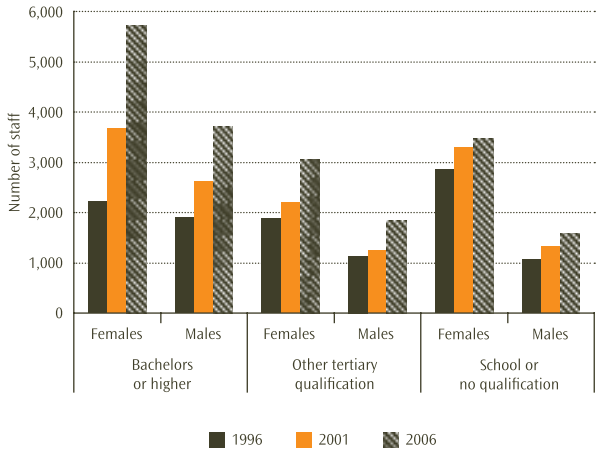
### Non-academic workforce well qualified

Like the academic staff, more non-academic staff working in technical and higher education held qualifications compared with employees in other industries and more of these qualifications were at a higher level. In 2006, there were 5,730 women and 3,710 men who held a bachelors or higher-level qualification. Fifty-two percent of these men and 47 percent of the women had a postgraduate qualification.

Figure 15.14 charts the non-academic staff by gender and qualification level. It illustrates, using census data, the predominance of women in the non-academic workforce in technical and higher education. In 2006, women comprised 67 percent of the total non-academic staff; 70 percent of managers and administrators were women and 75 percent of the advisory and teacher support staff.

7. This headcount is from the Ministry of Education's statistical collections.

**Figure 15.14: Non-academic staff in technical and higher education by qualification level and gender (March 2006)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

The designations of the non-academic staff are, unfortunately, too generic to allow estimates to be made of the staff numbers in the various income groups. For example, the 'other' staff category includes the following designations: general services staff, general staff, librarians, student/community staff and technicians. However, a broad insight into where staff might fit into the various income groups can be obtained from the qualifications held by the non-academic staff.

The income distributions of the non-academic staff, in 2006, showed that 41 percent of women and 59 percent of men were paid $40,000 or more per year. The proportions with a bachelors or higher-level qualification in 2006 were 47 percent for women and 52 percent for men. As there was a greater proportion of women working part-time than men in 2006, some of their incomes will be proportionately smaller and included in the lower income groups. In 2006, 33 percent (5,780 staff) of the non-academic workforce in technical and higher education worked part-time.[8] Thirty-nine percent of both the female advisory staff and the 'other' staff worked part-time. The comparable figures for males were 31 percent of the advisory staff and 25 percent of the 'other' staff. The higher incidence of part-time work among women and also the fact that close to two out of every three staff were women in 2006 help to explain the denser distribution of women in the lower income groups.

The proportion of non-academic staff earning more than $40,000 per year in 2006 was 18 percentage points higher for men than for women. This difference was unlikely to be entirely due to the difference in working hours between men and women.

In 2006, the non-academic workforce included 2,690 women with a postgraduate degree and 3,050 women with a bachelors-level degree. This compared to 1,940 men with a postgraduate degree and 1,770 men with a bachelors-level degree. In 2006, men and women were employed in equal proportions in the income group ranging between $40,001 and $50,000 per year. While there were more women than men earning between $50,001 and $70,000 per year in 2006, proportionately there were 16 percent of women and 23 percent of men in this group. In the absence of more detailed job titles and salary information, it is not possible to conclude whether or not non-academic men in technical and higher education were over-represented in 2006 in the middle and top income groups. A possible reason for the gender income gap is that in 2006 more male staff were employed in higher-level designations.

In the lower income groups, the proportional reductions between 2001 and 2006 were larger for the non-academic staff than the academic staff. The proportion of women earning less than $40,000 per year fell by 19 percentage points from 2001 to 59 percent in 2006. The proportion of the male non-academic staff earning less than $40,000 per year decreased from 56 percent in 2001 to 41 percent in 2006.

In 2006, half of the non-academic workforce had incomes that fell into the two lowest income groups. This could be attributable to the existence of a reasonably large proportion of staff in 2006 who only held a school qualification or no qualification – 28 percent of females and 22 percent of males. Additionally, some of the non-academic work includes roles requiring less training, leading to low salaries.

An equal proportion of non-academic men and women held non-degree tertiary qualifications in 2006. These men and women represented 25 percent of the total non-academic workforce in technical and higher education. There were also slightly smaller, but equal, proportions of men and women in 2006 who had incomes ranging between $40,001 and $50,000 per year. Of course, this group may include the earnings of those with a higher-level salary who worked part-time.

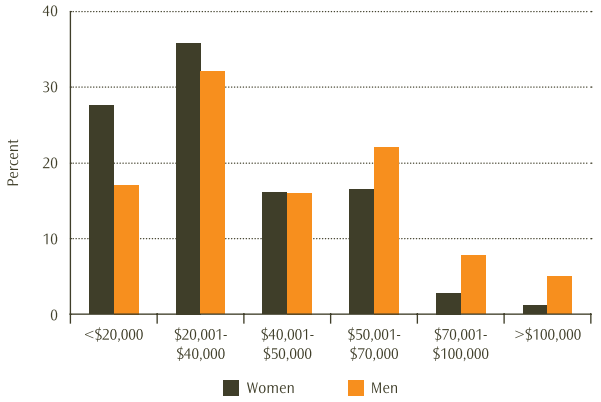
Overall, the gender-based income distributions of the non-academic staff in technical and higher education fairly closely resembled those of the academic staff in adult, community and other education and the total staff in school education (Figures 15.15 and 15.16).

8. The information on part-time staff is from the Ministry of Education's statistical collections.

## Income differences between the education workforces

In 2006, 59 percent of the academic staff in adult, community and other education were women. The 2006 income distribution for this workforce was broadly similar to that of the non-academic workforce in technical and higher education.

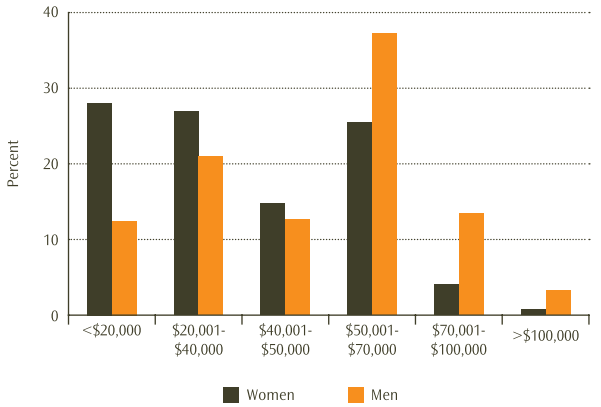
**Figure 15.15: Annual income distribution of the academic staff in adult, community and other education by gender (March 2006)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

When comparing the non-academic staff in technical and higher education (Figure 15.12) with the total staff in school education (Figure 15.16), there was similarity in their gender-based income distributions. In each case, women's representation in the lower income groups is higher than that of men. In the two income distributions, about 50 to 60 percent of women earned less than $40,000, compared to 30 to 40 percent of men. In the higher income groups women's representation was lower than that of men despite these workforces being predominantly female. And, as was the case for all of the income distributions considered here, there were fewer staff in the lower income groups in 2006 than in 2001 and more staff in the higher income groups. This was, of course, partly as a result of inflation adjustments to salaries.

**Figure 15.16: Annual income distribution of the total staff in school education by gender (March 2006)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

One area of difference between the non-academic staff in technical and higher education and the total staff in school education was in the middle income groups. A quarter of female school teachers earned between $50,001 and $70,000 per year. So did 37 percent of the male school teachers. In the non-academic workforce in technical and higher education only 16 percent of females and 23 percent of males earned between $50,001 and $70,000 per year.

In the school sector, 4.8 percent of women earned more than $70,001 in 2006, compared to 17 percent of men. In 2001, the comparable figures were 1.8 percent of women and 8.3 percent of men. The gap in the proportion of women and men earning more than $70,001 per year also widened between census years by 5.4 percentage points.

Women in school teaching remained under-represented in the top income groups (Figure 15.16) in 2006 even though they work in a predominantly female sector. Three out of every four school staff were female in 2006 suggesting that the number of experienced female teachers available for promotion to higher-level designations far outweighed the number of experienced male teachers.

## Gender income differences in other industries

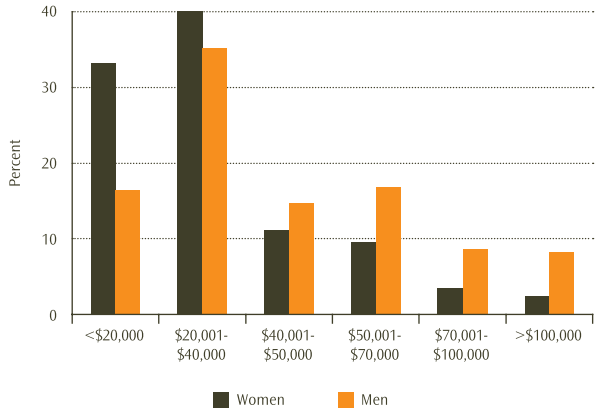
The gender-based income distributions of the non-academic staff in community education resembled those of the employees in the New Zealand economy quite closely. This was so despite the fact that in 2006 the non-academic staff in community education were more highly qualified, on average, than the employees in other industries. Almost two out of five non-academic staff in community education held a bachelors or higher-level qualification in 2006, compared to only one out of five employees in all other industries; people with qualifications are more likely to work in education than those without qualifications.

The gender-based income distributions for non-academic staff in community education and for the employees in all other industries had more men and women in the lower income groups than the other income distributions discussed here. Seventy-five percent of non-academic women in community education earned less than $40,000 per year in 2006. This compared to 73 percent of the female employees in all other industries. The comparable figures for men in 2006 were 59 percent in community education and 52 percent in all other industries.

**Figure 15.17: Annual income distribution of non-academic staff in adult, community and other education by gender (March 2006)**


***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

**Figure 15.18: Annual income distribution of employees in all other industries by gender (March 2006)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

In 2006, 24 percent of women in both the non-academic community education workforce and all other industries earned between $40,001 and $100,000 per year. The comparable figures for men were 36 percent of non-academics in community education and 40 percent of the employees in other industries. In the top income group, non-academic women in community education had a very small representation at 1.4 percent in 2006 and the proportion of women in all other industries in the top income group was only slightly higher (2.4 percent). The comparable figures for men in 2006 were 4.7 percent in community education and 8.2 percent in all other industries.

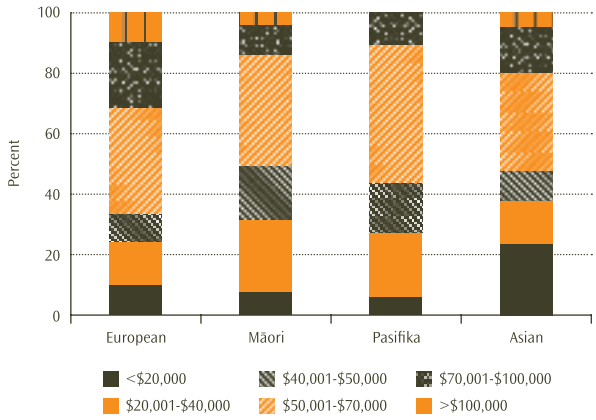
## Income differences by ethnic group[9]

### Technical and higher education

Some noticeable variations by ethnic group, as well as some similarities, existed in 2006 in the income distributions of the academic staff in technical and higher education. For example, the third highest income group ($50,001 to $70,000 per year) was the most common income group for each ethnic group. The Pasifika academic staff had, proportionately, more of their number (46 percent) in this income group than any other ethnic group. While Pasifika academics were not represented in the highest income group in technical and higher education in 2006, they had the smallest proportion of their number in the lowest income group.

In 2006, Europeans in the technical and higher education workforce had the highest proportion of academics in the top income group (9.6 percent). There were also 35 percent of European academics in 2006 who earned between $50,001 and $70,000 per year.

**Figure 15.19: Annual income distribution of academic staff in technical and higher education by ethnic group (March 2006)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

Māori academics in technical and higher education had the second lowest representation in the top two income groups, while they had 37 percent of their number earning between $50,001 and $70,000 per year. Relatively few Māori academics earned less than $20,000 per year.

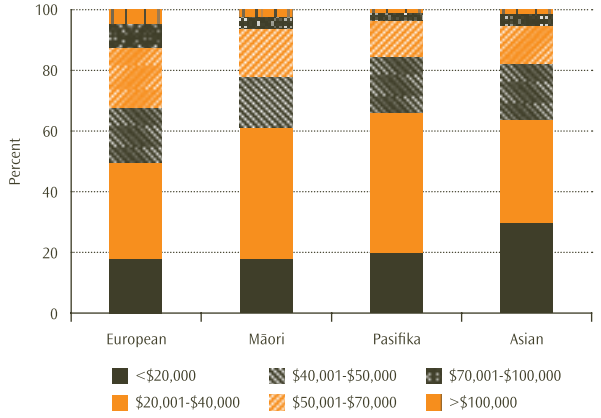
Twenty-four percent of Asian academics in technical and higher education earned less than $20,000 per year in 2006. One in three Asians earned between $50,001 and $70,000 per year in 2006 and one in five earned more than $70,000 per year.

9. This section groups New Zealanders with Europeans. Those identifying with a Middle Eastern and/or Latin American nationality are included in the Other ethnic group.

### Non-academic staff by ethnic group

The most common income group for the non-academic staff in technical and higher education ranged from $20,001 to $40,000 per year. The Pasifika ethnic group had, proportionately, more staff in this income group, 46 percent, than any other ethnic group. Māori had the second highest representation in this group, 43 percent, while Europeans had the lowest representation at 32 percent.

**Figure 15.20: Annual income distribution of non-academic staff in technical and higher education by ethnic group (March 2006)**




***Source:*** Statistics New Zealand, *Census of Population and Dwellings.*

Of the non-academic staff in technical and higher education, 30 percent of Asians earned less than $20,000 per year in 2006. Of the European, Māori and Pasifika non-academic staff in 2006, slightly less than 20 percent of each earned under $20,000 per year.

Among Pasifika non-academic staff in 2006, there were very few staff who earned more than $70,000 per year. Europeans had the biggest proportions of non-academic staff in technical and higher education in the top two income groups. In 2006, 7.9 percent of Europeans earned between $70,001 and $100,000 per year and 4.5 percent earned more than $100,000 per year.

## Conclusion

Between the 2001 and 2006 censuses, the overall changes in the gender-based income distribution of the technical and higher education sector were more favourable than those in other industries, adult, community and other education, and school education. Also, the work done by the universities tripartite forum and other sector stakeholders has led to progress being made. In August 2006, agreements were made that led to the ratification of new employment contracts at universities to help reduce disparities between the level of the remuneration of New Zealand university staff and those overseas.

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