Add it up: maths is hot stuff

Erica Cervini

Employer demand for maths graduates is far outstripping supply, positioning those with a head for numbers among the hottest property in the job market.

Recent research shows that maths and statistics graduates are wanted in areas as broad as predicting climate changes and interpreting data from supermarket cash register scanners.

A 2006 federal government report, *Audit of Science, Engineering & Technology Skills*, predicted a 32.5 per cent increase in demand for mathematicians between 2005 and 2013.

A year later, a Productivity Commission report on science and innovation acknowledged that the shortage of maths teachers was likely to continue.

However, OECD data shows that 0.4 per cent of Australian university students graduate with degrees in maths or statistics, compared with the international average of 1 per cent.

The president of the Australian Mathematical Society, Peter Hall, said the shortage of maths graduates was affecting the country’s economy.

"[Australia] is very reliant on foreign companies setting up in Australia and hiring Australians," Professor Hall said. "What we have noticed to some extent — and this is most obvious in the pharmaceutical industry — is that when they [companies] don’t see that the skills they need are available they won’t set up shop in Australia."

Professor Hall, who is also an Australian Research Council federation fellow at the University of Melbourne, said some graduates were now commanding salaries of more than $100,000 because they were in such high demand.

And more maths and statistics graduates were needed to interpret the huge amount of data that new technologies now produced.

The secretary of the Institute of Analytics Professionals of Australia, Warwick Graco, said many maths jobs were opening up in increasingly important areas such as health analytics where there was a mountain of data on the nation’s health.

"[By analysing the data] we can make discoveries about prevention and the right programs to put in place," Dr Graco said.

A professor in mathematics and statistics at the University of NSW, James Franklin, said the finance sector also needed more maths graduates because a variety of jobs had emerged in the area.

There was particular demand from banks because they now better appreciated what mathematicians could do for them in areas such as quantitative risk.

To reflect the demand for people to work in this area, UNSW started an undergraduate quantitative risk program last year, the first of its kind in the country. Professor Franklin said the Commonwealth Bank of Australia and software company SAS helped to develop the program.

More graduates were looking to the finance industry for employment because they could see many opportunities opening up.

"It used to be that maths graduates didn’t think of finance as the first thing, but now it’s the first normal choice for them to think about," Professor Franklin said.

A review of mathematical science research, published by the Australian Academy of Science in December 2006, indicated that only about 250 maths graduates with honours degrees or higher graduate each year from Australian universities.

"Australia is in danger of becoming irrelevant in the advanced mathematical sciences, and mathematics and statistics may become imported skills that are increasingly hard to obtain in a globally competitive labour market," the review said.